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ORIGINAL ARTICLES

THE DIAGNOSTIC VALUE OF THE SYSTOLIC MURMUR AT THE APEX OF THE HEART.*

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In my practice I have seen a goodly number of cases in which the diagnosis of mitral insufficiency had been erroneously made by physicians, and often competent ones at that. In nearly all of these cases the diagnosis of an organic heart lesion had caused a great deal of anxiety to the patient as well as to his family. A few of these cases turned out to be a real torment to me, even after I had assured the patient and the family that there was no cause for worry, and that the so-called organic heart failure was only an anæmic one. In one case, for instance, a boy of fourteen had gone through a spell of typhoid fever. After he recuperated, the attending physician told the mother that her only son had a mitral insufficiency and would never be a strong man. The mother, a widow, was horrified at the idea that her favorite child should be obliged to go through life as an invalid, and perhaps even be taken away at an early age. This happened in a university town where the lady was educating her family. About a month after this verdict was pronounced, the mother brought the boy to me for examination. I found an absolutely normal heart, as far as size was concerned. The heart sounds were all clear, and only when the boy was in a recumbent position could I hear a faint systolic murmur at the apex. The boy was of a very nervous temperament, and had a pulse rate ranging from ninety to one hundred and thirty. I examined him over and over again at different times, and all my assurance that there was no organic heart

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lesion amounted to nothing. The mother worried herself and the boy nearly to death. The poor fellow could hardly take a step without being reminded by his mother that he ought to be careful. Under these circumstances the nervous condition grew worse and the pulse rate increased. Naturally, the anxiety of the mother grew worse also. Several times a week I had to thresh over the same reasons why the affection was not an organic one. The mother, who had traveled extensively in Europe, asked me at last about the advisability of taking her son to Bad Nauheim, Germany, the famous resort for heart failure patients. I gladly took up this suggestion, and mother and son went to Europe and spent six months in Nauheim and other German cities. In every city some medical celebrities were consulted who, without exception, confirmed my diagnosis, and even after returning home the lady was still not convinced and only when, on my suggestion, mother and son separated, giving the boy an opportunity to develop into a strong young man, did the mother see how unnecessary all her anxiety had been. The physician who had treated the boy during the attack of typhoid fever, had correctly heard a systolic murmur at the apex, but had taken only this physical sign into consideration and hence had made his error. It was the same way with all the cases of this kind which I have seen. The systolic murmur alone was sufficient for the respective physicians to make the diagnosis. As this mistake is a such a common one, I deem it timely that the diagnostic value of the systolic murmur at the apex should be discussed. My paper, therefore, has its origin in the practice, and is written for the practice.

We all know that there are two great groups of heart murmurs—the accidental and anæmic, and organic ones. Diastolic murmurs are nearly always organic. The systolic might be either one or the other, but I venture to say that the vast majority of systolic murmurs are not due to organic valvular heart failures. We do not know anything definite about the origin of the anæmic murmurs. It is, therefore, of the utmost importance to be able to distinguish these from the organic murmurs. According to von Noorden, we have to take into consideration that at least ten per cent. of all healthy men, and twenty per cent. of all healthy women have, instead of the first heart sound, a systolic murmur, usually either at the apex or in the left second interstitum above the pulmonary valve. This phenomenon also is said to occur in children between the ages of ten and fourteen commonly, but here mostly above the pulmonary valve. The diseases which produce the accidental murmurs are in the first line all anæmic conditions, especially chlorosis, and acute infectious diseases with fever; also pregnancy. In anæmic persons one can say that the absence of the systolic murmur is almost the exception. But how are we to decide whether a murmur is an accidental or an organic one? The murmur itself does not give us any clue whatever. The text-books say that in the most cases the functional murmur is not as loud as the organic one, but from my own experience I must

say that neither the intensity of the murmur nor its changes, in varying the posture of the patient, are conclusive. I have heard very intense murmurs in cases where there was only a functional disorder, and, on the other hand, very soft ones in undoubted organic heart failures. The further development of these cases verifies this statement. We have, therefore, to rely not so much upon the murmur as upon the other symptoms present, or, as I might say, the absence of all other symptoms. In cases of marked anæmia, or if the other above mentioned conditions are present, the diagnosis of accidental murmurs ought to be easy. But we should also take into consideration that we very often see or hear systolic murmurs without the signs of anæmia. In cases where we do not find any enlargement of the heart, nor any accentuation of the second pulmonary sound, we never should make a diagnosis of an organic heart lesion, *i. e.,* in cases of mitral insufficiency. But in some cases of chlorosis we occasionally have conditions which simulate absolutely an organic heart failure, and especially a mitral insufficiency. The physical examination reveals an enlarged area of dulness, and especially an apparent enlargement of the right heart, but the left heart also seems to be enlarged. The apex beat occurs farther to the left than normally. Both sounds over the pulmonary valve can be heard much more intensely than the aortic sounds. The systole at the apex reveals a loud murmur, but, in spite of all these symptoms, there is no organic heart lesion present. On account of their constitutional condition, these young persons breath very superficially and do not develop the lungs fully. The diaphragm stands high, the lungs are not able, under these circumstances, to cover the heart as in normal individuals and leave a much larger area of dulness over the heart region. In order to avoid any error, one should always, in examining the heart, ascertain the position of the diaphragm. Furthermore, a simple experiment will show whether there is actually an enlargement of the heart, or only insufficiently developed lungs. Let the patient take, for a short time, deep breathing exercises, and then examine again. The lungs will have developed themselves fully and the apparent enlargement of the heart has disappeared. We must always take the history of the case, and the totality of the symptoms into consideration, here as well as anywhere else, before we make a diagnosis. My own experience has taught me even more. We might have an apparently conclusive history and also apparently sure signs of an organic heart lesion might be present, and still there might be only an anæmic or accidental murmur. The following case will illustrate this statement:

Mrs. G. S., now twenty-one years old, at the age of twelve had an attack of inflammatory rheumatism, involving both elbows and hands. When she was fourteen years old the attack recurred, but was not as severe as the first one. This time the right foot and both hands were affected. I saw her first when she was fifteen years old. She had marked chlorosis, hæmoglobin 80 per cent., pulse normal, heart en-

largement reaching to the middle of the sternum. The apex beat in the fifth interstitial space, just below the nipple; loud systolic murmur at the apex; second pulmonary sound distinctly louder than the second sound over the aorta. After severe exercise, pulse irregular, heart action accentuated, lips, cheeks, ears of a bluish color, sometimes actually purple, for instance, while dancing; shortness of breath, and tendency to bronchial affections. The history, as well as the findings in this case, would doubtless have justified me in making the diagnosis of mitral insufficiency, due to inflammatory rheumatism, and, at first, I was inclined to make this diagnosis. But after prescribing iron in various forms, the chlorotic condition improved greatly and the murmur at the apex gradually disappeared. We had to battle for three years, and often when the young lady had not taken iron for a while the symptoms returned in their totality. Chlorosis, as well as all the other symptoms named, disappeared entirely when the patient was eighteen years old, and, in spite of repeated examinations, I have been unable to detect any heart disturbance since. The patient is perfectly well.

This case was doubtless not one of an organic mitral insufficiency and shows how difficult the differential diagnosis may sometimes be.

The impression made upon me by a number of cases was that some of the anæmic murmurs were not so constant in their intensity. This is the only sign that I might say differs from a relative murmur, but I am not yet absolutely sure of that either.

We now come to a group of cases which lead, as it were, from the anæmic to the organic heart murmur. I refer to those cases with so-called "relative" insufficiency. They are neither accidental nor real organic ones, as the valves themselves, in these cases, are absolutely intact. The relative insufficiency is always due to an over-stretching of the heart muscle from some cause. A relative insufficiency might occur in any ostium of the heart. We are here interested only in the conditions which are due to the insufficiency of the mitral valve, and leave, therefore, the others out of consideration. There are a number of processes, by which the heart muscle itself is so weakened that the pressure of the blood in the heart cavity causes an over-extension of the entire muscle of the left ventricle, and the papillary muscles are separated from each other, so that, during the closure of the valve, that is, during the systole, the valve fails to close tightly. This may happen in all cases of anæmia, chlorosis included, general debility, diabetes mellitus, Graves' disease and other processes, which cause general marasmus (and furthermore as a complication of other valvular lesions, for instance, aortic insufficiency). Clinical experience teaches that this kind of insufficiency will restore itself to the normal, if the cause can be removed. It is easy to understand the pathogenesis of this insufficiency, as the heart muscle, which is weakened by the general process, has to perform an increased duty, which it is only able to do with the help of all the reserve force it possesses. Dilatation of the left ventricle is the natural

result. This dilatation precedes here the insufficiency and not the insufficiency the dilatation, as is the case in pure organic insufficiency. The diagnosis of relative insufficiency might be easy if we have one of the above-mentioned constitutional diseases present, and if there is a slight enlargement of the left heart especially, but often this slight enlargement cannot be satisfactorily demonstrated. The heart of these patients is naturally often so small that a slight dilatation of the left ventricle will appear, as if it were within the normal boundaries of heart dulness.

As a general rule, I must say that this class of heart affections, with its systolic murmur at the apex, often presents insurmountable difficulties as to the differential diagnosis between itself and the simple anæmic murmur and real organic mitral insufficiency. We must consider carefully the history and all the symptoms of the case, and even then we often make mistakes. As far as the "relative" murmur is concerned, I only know of one sign which might help us out; that is the persistency of the murmur, its intensity, and invariability, which lasts until the general condition is improved. I have been able to prove the correctness of this statement in quite a number of cases, but whether there are not exceptions to this rule I would not venture to state. As far as the differential diagnosis between organic and relative mitral insufficiency is concerned, I wish to refer to what I shall say later on during the discussion of the former. One statement I would like to make is that an organic mitral insufficiency, due for instance to acute inflammatory rheumatism, which occurs mostly in young persons, will debilitate the body in general so much that only under the consideration of the history, and all the symptoms present, are we able to decide whether the heart failure or the general debility was the preceding agency. In other words, whether we have an organic or only a relative insufficiency present. This relative insufficiency is by no means uncommon, and we ought to think of this possibility in each case where there is a systolic murmur at the apex. By no means should we speak of an irreparable insufficiency, to the patient and his relatives, if there is even a possibility that there might be only a relative insufficiency, which could be cured under favorable circumstances. As an illustration, I will briefly report a case which is still under my observation.

Miss H. J., aged 21 years, has had the diseases common to childhood. At four years of age she had a severe attack of diphtheria; she also had measles and malaria, the latter at the age of ten. Since her seventh year, up to very recently, patient had very frequent and severe attacks of chronic uritcaria. These attacks were always brought on by the child becoming overheated, or by eating strawberries, crab, lobster, etc., and also, after taking certain drugs, for instance quinine. At the age of fourteen patient had an exceedingly severe spell of scarlet fever, and ever since she had been in a weakened condition. The body did not develop properly. She grew to be very nervous and had frequent attacks of indigestion.

A number of physicians were consulted without satisfactory results. The last one (an able physician indeed), told the mother that patient had organic heart disease; that one of the valves was leaking, and that patient would never be a strong, healthy woman. This was about six months ago. I saw the patient for the first time in March, last. She is five feet tall, weight eighty-three pounds, body very poorly developed, bones as well as muscles. The organs, with the exception of the heart, and also the blood, did not show any pathological changes, but were all below par; slight gastroptosis and entroptosis were present; right kidney palpable; tenth rib on either side fluctuant; chest small; heart small, not enlarged. Loud systolic murmur at the apex. No accentuation of the second pulmonary sound. Hæmoglobin 75 per cent.; examination of gastric contents showed decided super-acidity; urine normal. Diagnosis: General debility of the type that Stiller in Pesth calls "asthenia universalis," anæmia, relative mitral insufficiency and super-acidity. A proper dietary, physical and medicinal treatment were inaugurated, under which the patient grew gradually better and stronger. The systolic murmur did not change any in its character for the first six weeks, but after that it grew gradually softer and has now practically disappeared. Patient now weighs 90 pounds, a gain of seven pounds. The hæmoglobin is 100 per cent.

The absence of any other changes in the heart caused me at once to decide against any real organic lesions, while the continued persistence of the murmur, which was always of the same intensity, caused me to decide in favor of relative insufficiency instead of a simple anæmic murmur.

The organic mitral insufficiency, due to endocarditis, has two great causes in its etiology—acute infectious diseases and, in the first line, acute inflammatory rheumatism, and, secondly, arteriosclerosis. The text books say that this is by far the most common of all heart failures. My own experience has shown me that this, at least in the middle-west of the United States, is not correct. I certainly see five or six cases of aortic regurgitation where I see one case of real mitral insufficiency. This is evidently due to the fact that in our latitudes acute inflammatory rheumatism is not as common as it is in middle and northern Europe. I meet with a good many relative insufficiencies, or with anæmic murmurs, but an endocarditic mitral insufficiency is comparatively scarce here. The opinions of the authors, as to whether the diagnosis of mitral insufficiency is an easy one or not, differs very materially. William Osler and Von Noorden, for instance, do not consider it at all hard in the common run of cases, while Traube and Romberg pronounce it the most difficult diagnosis of all valvular heart affections. Juergensen, who wrote that most excellent monograph on endocarditis, goes even as far as to state that one never can be absolutely sure whether the diagnosis of mitral insufficiency in a given case is correct or not. I, myself, side with the latter ones. If the practitioner depends entirely upon the systolic murmur

and a few other signs he will often make mistakes. I gladly concede that it is easy, in a case of well-developed mitral insufficiency, with all the required symptoms present, to make this diagnosis, and in many cases the diagnosis will be correct; but sometimes, in spite of the presence of all the symptoms required, the diagnosis will be found to be incorrect, on the post-mortem table. And I would like to know how we can be sure, in many cases, whether we have an endocarditis or only muscular insufficiency present. But what are the classical symptoms of mitral insufficiency? The text books name the following symptoms in a well developed compensated case: Systolic murmur at the apex; hypertrophy of the right ventricle; dilatation and hypertrophy of the left ventricle, and accentuation of the second pulmonary sound. Of the latter symptom, I must say that it is very inconstant, but if it is present it is a great help in making the diagnosis. As far as the character of the murmur is concerned, it may be of all degrees of intensity, from the softest, breath-like murmur to a hard metallic one. The systolic murmur is a necessary requirement in making the diagnosis. I have read of a few cases in literature where this murmur was not present, and the diagnosis of mitral insufficiency was proven to be correct on the post-mortem table. These few exceptions only prove the rule, and I would advise nobody to make the diagnosis of mitral insufficiency without the systolic murmur at the apex. But I wish here to draw attention to the fact that in many cases of mitral insufficiency the systolic murmur is likely to disappear at any time, only to return later.

The right ventricle always shows signs of hypertrophy. Dilatation is not present during compensation, but always is to be found in compensated cases. As to the left ventricle, dilatation here always precedes the hypertrophy, and the latter is never so extensive as that of the right ventricle. The left auricle is always enlarged, and its walls are thickened. The right auricle will only be dilated in cases of incompensation. I discuss these conditions in order that my remarks on the form which the heart presents in cases of mitral insufficiency may be more easily understood. The form in these cases is, indeed, of the utmost importance, and is so characteristic that I might call it almost pathognomonic, though in the hypertrophied condition of the right ventricle the heart loses its normal conical form. It grows more in width and takes on the form of a ball flattened from the front toward the back. The apex is considerably widened out and does not consist any more of the left ventricle alone, but of the right and left together, and, in occasional extreme cases, of the right one exclusively; but this latter, only in well developed incompensation. The more the right ventricle, which lies on the diaphragm, hypertrophies, the more the apex and the ventricles will be forced upward, so that often the left ventricle reaches, to a considerable extent, the lower edge of the second rib. The dilatation and hypertrophy of the left heart are, in general, slight. The heart, therefore, grows more in width than in length, and even in extreme cases, where

the apex beat is far outside of the nipple, the growth of the width is always proportionally greater than that of the length. Only recently, I examined such an extreme case where width and length each measured five and one-half inches. This is only in aggravated cases. Considering that the heart is normally much longer than wide, one can easily see my point. The heart is, furthermore, pushed from its original diagonal position to a horizontal one. The apex beat, therefore, moves higher up, also. It is not felt any more inside and below the nipple, but often at the nipple itself, or above and outside of the latter. These statements I have often verified by fluoroscopic examination, whereby all the different parts of the heart can be easily distinguished. But I have learned still more through the fluoroscope. The right heart always shows a considerable enlargement on percussion. In earlier days, this was attributed to a dilatation of the right ventricle, but we know now that in compensated cases the right heart is only hypertrophied and not dilated. The general opinion is now that the hypertrophied right ventricle is the cause of the enlargement to the right. The fluoroscope shows that the enlarged left auricle pushes the right heart more to the front, so that it gives a larger area of dulness, and this dulness over the sternum is due only to the displaced right auricle, and not to the right ventricle. If we outline with a colored pencil on the skin, the dulness of the heart (and this should be done in all heart cases), we will get a very characteristic picture. We have a straight line from the second rib downward on the right edge of the sternum. On the left side, we see a strongly curved line, almost like a part of a circle, extending down, from the lower edge of the second rib to the nipple, or a little outside of it. In contrast to this, I want to state that in aortic insufficiency the increase is decidedly more in the length than in the width of the heart, and the curved line on the left side is much flatter and reaches far beyond the nipple. These conditions are, to my mind, of the greatest importance in the diagnosis of mitral insufficiency. Some of the details might vary a little, but you will always find the general outlines of my statement to be correct. In order to be just, I must state that I found some of these ideas already mentioned by Bamberger, perhaps the greatest heart diagnostician who ever lived. But it is a curious fact that, in all the literature since the days of Bamberger, as far as it was accessible to me, I have found that only Juergensen had similar ideas. My statements are the result of years of experience, and if you find, in some text books, assertions to the contrary, you may safely take them as incorrect. Osler, for instance, asserts in his newest work, "Modern Medicine," that in cases of mitral insufficiency, the heart grows mostly in length. I gladly leave this question to anyone who cares to investigate.

The hypertrophy of the right ventricle can be diagnosed, at first, from the second accentuated pulmonary sound, if this is present, and in all cases from the characteristic figure of the dulness of the heart.

We now see that in the diagnosis of mitral insufficiency, the systolic murmur is not the only factor to be considered; that, furthermore, this murmur is not by any means the most important of the symptoms, but that the hypertrophy of the right ventricle, the dilatation and the hypertrophy of the left ventricle, the characteristic heart figure, etc., are equally as important as the murmur, and I again want to caution the practitioner against making this diagnosis except in cases where all these symptoms are present.

But how unsafe this diagnosis sometimes is, is shown by a case that Juergensen reports in his text book—that of a woman 53 years old. He found all of the above mentioned symptoms, and in addition to these a number of others which I have not mentioned in my discussion, as they are such well-known complications of mitral insufficiency. For instance, palpitation of the heart, bronchial catarrh, cardiac asthma and dropsical evidences. The diagnosis of mitral insufficiency was made but the post-mortem showed a slight dilatation and hypertrophy of the heart in toto, but no change of the mitral valves. And Juergensen says: "So it goes often enough, one risks again and again, to travel the road that leads to the mire."

As another example of the difficulties which might arise in this connection, I cite one of my own cases. A young lady nineteen years old, had as a child a history of no interest at all. At the age of twelve she had an attack of rheumatic fever, during which the physician in charge detected a loud systolic murmur at the apex. The parents were told that their daughter had an organic heart lesion, due to inflammatory rheumatism. The child was carefully guarded and grew into womanhood. Patient is of a very lively temperament and, in spite of all the precautions the parents took during these years, she often escaped them and exercised violently. Repeated examinations of the heart by different physicians always revealed the same condition. When I saw the young lady, I was told, by patient, that she never had experienced the slightest inconvenience from her heart; that she never had any palpitations or cough, nor pains in the chest; also no shortness of breath, and that she never realized she had a heart. Examination showed no enlargement of any part of the heart, but a loud systolic murmur at the apex, and a weaker one at the pulmonary ostium. Repeated examinations always showed the same condition. These murmurs have now lasted continuously for seven years, but the otherwise normal heart prevents me absolutely from making a definite diagnosis. I do not know what it is, but can only say that the mitral valves do not close tightly.

In conclusion, I hope that I have made my position clear enough to be understood. I would like to warn against any superficiality in the cases under discussion. I acknowledge absolutely the importance of the systolic murmur at the apex, but I say again that this alone does not make a diagnosis possible. The totality of the symptoms with the history of the case must also be taken into consideration.

THE PREVENTION OF OPHTHALMIA NEONATORUM.*

By P. I. Leonard, M. D., St. Joseph, Mo.

One of the striking features in President Roosevelt's message was the recommendation that we should conserve not only our material, but also our vital resources.

Before an audience like this, it is unnecessary to do more than mention the economic value of vision, and the economic saving to the State, that after a proper treatment of the diseases of the eyes or their injuries, you do prevent blindness.

It can be said to the credit of the oculist, that perhaps no one, except the patient himself, feels happier than he who, after considerable worry and sacrifice, often without any remuneration, simply feels that he has done his duty to his fellowman and his State. The disease of the eye which most frequently leads to blindness is ophthalmia neonatorum, and as a member of the committee appointed by our society, I feel sure that a discussion of how to go about the prevention of this disease would give the committee valuable information, and the members could suggest the actual conditions in the State.

The conditions which lead to the prevention of disease are of a politico-sociological importance. My own experience in a legislative direction has forcibly impressed upon me the futility of any "half-baked" laws which never could be successfully enforced. These bills are often introduced either by a "grand-stander" or a sociological myope. The bills introduced in our congress and legislatures in one session no man could read in a hundred years.

Our legislative bodies are crowded almost exclusively by lawyers, and they consider specific directions necessary at all times, rather than a mere interpretation of the law.

An eminent lawyer claims great credit for the legal profession in that no lawyer takes from any man more than he has. Attorney-General Wickersham, in a speech to the alumni of the University of Pennsylvania, said that the physician of to-day bears an important relation in the proper execution of the laws for the health and safety of the general public, as well as being largely instrumental in having laws enacted for the protection of the public.

The preacher and the lawyer deal with what has been, but the physician must solve the questions of the future, and if history does not repeat herself, and decay once again destroy civilization, then it will be the physician who must lead mankind to the millenium.

*Read in the Eye, Ear, Nose and Throat Section at the Annual Meeting of the Missouri State Medical Association, Jefferson City, May, 1909.

In preventing disease we dig our own graves, and many of our political friends regard us with suspicion, who would rather believe us capable of contaminating the drinking water with infectious material, than prevent the infection from reaching our homes.

A physician would immediately resent the imputation of not being a good citizen, and yet he takes no interest in politics; sometimes he does not even vote. He thinks his colleague who does, lacks in professional ability. Let him look to European masters in medicine who have occupied seats in legislative assemblies. The higher type of the American people do not generally occupy the legislative chairs. We get just as good a government as we deserve.

Education of the profession, midwives, nurses, educators, parents, legislators, and the public generally, is essential before we can prevent ophthalmia neonatorum, and other diseases which lead to blindness. Our recent legislature made a long step in advance in passing the vital statistics bill. "The proper registration and preservation of records regarding births, deaths, etc., is one of the most important questions with which the State has to deal. On the accuracy of such records depends the value of conclusions drawn regarding longevity, diseases, births, effects of occupation, etc. This subject has been too much neglected by many of our states. It is evident that in order to be of any value for purposes of comparison, vital statistics in different states must be collected and recorded on practically the same system. Uniformity, therefore, becomes essential." A worthy issue, wisely and persistently urged, has been accomplished, and prepares the ground for the next effort.

The public is being awakened by a popular interest in medical matters, and our profession must urge reasonable and utilitarian measures.

The State Board of Health seems to be the proper authority for establishing the necessary rules, regulations and ordinances and enforcing their observance, and for publishing and distributing appropriate information on the subject. The Illinois Commission on the Condition of the Blind reports as follows:

> "An act to prevent inflammation of the eyes of the new-born babe, or so-called ophthalmia neonatorum:
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> "Section 1. The Board of Health of the State of Illinois is hereby vested with power and authority to publish and distribute such information and instruction, to furnish such remedies and to make such rules, regulations and ordinances as it may deem expedient to prevent the development of inflammation of the eyes of the new-born babe, so-called ophthalmia neonatorum, in public hospitals or institutions in which midwifery is practiced, either wholly or in part, and in connection with the practice of midwives.
>
> "Sec. 2. Said Board of Health is authorized to enforce its rules, regulations and ordinances on this subject at the expense of the State.
>
> "Sec. 3. Any person violating any rule, regulation or ordinance of said Board of Health regarding the prevention of ophthalmia

neonatorum shall be guilty of misdemeanor and shall be punishable by a fine not to exceed $100, or imprisonment not to exceed six months, or both."

In speaking of midwives Howe, of Buffalo, says:

"These women are too ignorant to be educated by appeals to them. This fact is clearly shown by legislation concerning the midwives in the County of Erie, New York State (where Buffalo is situated). In 1885 a law was passed requiring their registration, and immediately afterwards a campaign was begun to educate them concerning the prevention of this disease. These efforts amounted to practically nothing, until two of them were convicted in accordance with the law already cited. That caused consternation, and after that they not only reported cases frequently, but at the Eye and Ear Infirmary and other such institutions we now see these cases in a much earlier stage.

"Second. We undoubtedly should have laws which require midwives to use a 2 per cent. solution of silver nitrate or some other equally efficient antiseptic."

Speaking of the State of New York, Howe says that many obstetricians, and even some teachers of obstetrics, do not know of the existence of the law in their own states.

If in the future we do not wish to see children groping their way in hopeless darkness, if their lives are not to be an endless gloom, physicians must all do their duty.

Our State and local boards of health, our medical colleges, our schools for midwives and nurses, school teachers, preachers, the public press, public lectures, pamphlets, etc., must be engaged in this fight.

In this connection we see the unsocial attitude of the quack who contributes nothing to the prevention of disease, and the unfortunate isolated position of the physician who refuses to join hands with his colleagues.

The single individual accomplishes almost nothing; it is only as a part of an organization that great principles can be successfully applied for the benefit of mankind.

The State Society accepts altruistic responsibilities and activities, and our committee on legislation deserves credit because it "did" things.

Everyone who treats the sick or the imaginary sick by any method whatever, or by no method, should be compelled to know something of anatomy, physiology and pathology. At present anyone can practice in Missouri without examination, except a regular physician.

The unfortunate credulity of mankind is the harvest of the quack and the psychic healer, for as Heine has only too truthfully said: "No man is ever so crazy but that he will find one still crazier who can understand him."

It is a pity, and a psychological problem, that fairly reputable physicians, presumably for mercenary reasons, consult with irregulars, and

thus uphold quacks whose every influence opposes the aim and tendencies of our profession. Stranger still, it is not the poor doctor that is guilty.

The roseate view of medical associations of Dr. McCormack is perhaps carrying friendliness and sociability too far. We admit that jealousy and rivalry is a bane of the profession, but if we wish to justify our existence it must be along moral rather than immoral lines. What a man does is the proof to the world of what a man is. We know that ethical principles are not easily enforced, they are so full of loopholes for those who look for them.

Even if all infectious and some other diseases were abolished, Tyson says there still remain a multitude of ills, diseases of the vascular, nervous and digestive systems, due to individual habits and modes of living which civilization will never wholly correct. If physicians themselves suffer from them there is little hope that others may be more fortunate.

Some diseases may become extinct, others take their place, and mankind must pass yet through many centuries of evolution before the profession of healing will be of the past.

There will be fewer doctors and these will still reach the goal of success. Kipling says of doctors: "You remain now, perhaps, the only class that dares to tell the world that we can get no more out of a machine than we put into it.

The iconoclastic Lydston has said something rather clever about success:

> "And so, let us fight on—fight to win that success which is always just ahead. The struggle for the unattainable has ever been a struggle for the ideal. Striving for the ideal is what has raised mankind from its old place among the cattle—and the flies.
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> "If I were asked for a definition of a successful man, I should say: 'A successful man is he who has done the best he could with such material as nature gave him.' And yet, this standard would be for the world, not for the man himself. As I said before, by the true standard—one's own opinion of himself as a success—there are no successful men. And this is well for the world, though hard for the individual."

Our idea is beautifully expressed by the following verse:

> "Not the thing which we accomplish,
> But the better thing we plan,
> Not achievements, but ideals
> Are the measure of a man."

DISCUSSION.

Dr. John Green, Jr., St. Louis, stated that the State of Missouri has a law which compels midwives to report to a legally qualified practitioner any discharge of pus from the eye of the new-born babe. To his knowledge there had never been any prosecution under this law. We

know that there are midwives in collusion with weak brothers in our own ranks, to one of whom she could legally refer such a case and he would be very apt to protect her from the law. A change in the law compelling the midwife to report such cases to the county health board so that, no matter who might back up the midwife, the case would come to the attention of the proper authorities, would be a great improvement.

Dr. J. D. Pifer, of Joplin, stated that he advocated the use of argyrol in a 25 per cent. solution. In this concentration there is no irritation and no damage to the babe's eyes.

Dr. Guy L. Noyes, of Columbia, stated that he thought the suggestions were right, in the main, and emphasized the necessity of prophylactic measures. He said he had never seen a case of ophthalmia neonatorum in the practice of reputable physicians, except where no prophylactic measures had been used; he considered, therefore, that our most important duty is to emphasize continually the need of making routine use of the ordinary prophylactic measures that are known to be useful in the prevention of eye disease of the new born.

Dr. Barton Pitts, of St. Joseph, had seen a great number of cases where the treatment did as much harm as the disease, in his opinion. He thought this statement would not apply to members of the profession who make a specialty of such diseases as much as to the general practitioner. He believed it best to use nitrate of silver solution, accompanied by atropine if necessary. He used solutions of nitrate of silver of the strength of a half grain to one grain to the ounce, believing that weak applications in the early stages were best. He had lost one case where he used bichloride of mercury. The result might, however, have been caused by the fact that the solution was hot. He believed the continued application of cold with a weak nitrate of silver solution the best agents we have for combating the disease. He had used the treatment with yeast, as suggested by Dr. Thompson, but without result.

Dr. Flavel B. Tiffany, of Kansas City, said that he did not at present use silver nitrate in as strong solution as he had formerly done, nor did he use it in the first stage of the disease, but only after suppuration had begun. He believed that prophylaxis was the most important feature of treatment. He had used argyrol quite a great deal, but had been disappointed in two or three cases. Since Dr. Standish read his paper at the Atlantic City meeting, he had used it quite extensively, but had been sadly disappointed in two or three cases. In one case especially, notwithstanding the most vigilant and careful treatment with argyrol, both corneas sloughed and vision was practically lost. Since then he has grown somewhat skeptical as to its efficacy in virulent forms of gonorrheal ophthalmia.

Dr. Leonard, in closing, stated that while the main point was the prevention of ophthalmia neonatorum, the proper use of silver nitrate was not harmful, but the eyes must be kept clean. He thought the board of health should be empowered to take charge of such cases and should be supplied with sufficient money to carry out the propaganda.

THE NEW STANDARD OF DIET.*

By I. J. Wolf, M. D., of Kansas City, Mo.

A paper on diet is not a frequent occurrence in gatherings like this, although everybody will concede that the subject of diet is an extremely important one, both to the physicians and to the people in general.

And yet, we physicians, while constantly searching for new remedies and drugs for every known ill and ailment, and devising new operations, even in cases essentially medical, are more or less apt to forget a remedy which for a great number of diseases and conditions is by far more efficacious and more generally applicable than any drug ever discovered—and this remedy is diet. Further it cannot be denied than on the subject of diet most of us are woefully ignorant and deficient; and while few of us would be unable to write a correct prescription of drugs for the druggist to compound, equally as few or even less would be able, if called upon to do so, to write a correct prescription for or give an outline of a day's diet, correct as to quality, quantity and composition, so that the cook in the diet kitchen could dispense it without further questions. Again, in how many hospitals of this city, and other cities, are the facilities adequate for a proper dietary treatment of diseases, so that the patient is sure to get exactly what is prescribed, without taxing the patience and time of the nursing staff unnecessarily? These same hospitals are fully equipped to carry out preparations for operations to the minutest details, but are little prepared for medical cases, especially those requiring a diet and physical remedies, such as light, heat, massage and electricity.

This suggests the necessity, in cities, of a hospital where these shortcomings are eliminated; a hospital, in other words, for non-surgical cases and convalescents.

There is, indeed, no subject in medicine more important than that of diet, both from the standpoint of the etiology, prevention and cure of a great number of diseases.

Diet, deficient in quantity or quality, is almost the sole etiological factor in many diseases like scurvy, rickets, gout and the great number of affections of the stomach and intestines, of the liver and kidneys, even of the heart and lungs.

Diet, correct in quantity as well as quality, will prevent those same named diseases as surely as will quarantine prevent the spread of contagion.

*Read in the Medical Section at the Annual Meeting of the Missouri State Medical Association, Jefferson City, May, 1909.

And diet, correct as to quantity and quality and adjusted to the individual case and patient, will as surely cure many of these diseases, as will antitoxin cure diphtheria, and will as effectively alleviate many others, as will drugs alleviate symptoms of diseases which they cannot cure.

Notwithstanding the great importance of this subject in health and disease, we have contented ourselves with the teachings handed down to us over forty years ago, and though a few voices are heard here and there, rebelling against old teachings and time-honored customs, and though the experiences and claims of vegetarians, nutarians, fruitarians, etc., seem to be accepted as correct by few and known to many, there is as yet no awakening in the great mass of the medical profession as to what these isms teach and point to in man.

And yet those few who have followed the course of events recognize that we need a far more complete scientific knowledge than we possess at present of the laws governing nutrition; we need to know more concerning the minimum diet and especially the minimum amount of proteid on which health and strength, both mental and physical, are to be maintained under any and all conditions of health, climes or occupations and about so many other points so important to the welfare of civilized man.

In this connection it may be well to point out that for our purposes foods are divided into three classes:

1. The proteids (mostly taken from the animal kingdom).
2. The fats.
3. The carbohydrates.

The two latter, *i. e.*, the fats and carbohydrates, are burned up in the body, to carbonic acid and water and furnish heat and energy. Their oxidation is easily accomplished and complete, and even if taken in excess, leave little waste behind and at the worst cause unnecessary work on the part of the digestive organs, perhaps undue fermentation and irritation, often an unnecessary deposit of fat, which at times becomes pathological, but seldom extremely dangerous.

The proteids, on the other hand, or nitrogenous foods; while capable of yielding a little energy and heat, are taken mostly to supply new tissue and repair wear and tear, a function which no other class of foods can perform in their stead. Hence they are and always have been regarded as the most essential part of a diet, without which the body could not long survive.

In the course of their metabolism in the body, however, they do not form such simple chemical compounds as do the starches and fats, but their metabolism results in the formation of nitrogenous waste products, consisting of crystalline nitrogenous products, such as urea, uric acid, creatin, etc., products which, if retained in excess in the blood or deposited in the various organs, act as poisons and give rise to diseases which have long been the study of physiologists and physi-

cians the world over. An excess, then, of proteid food, above the quantity really required, is thus by far a more serious matter than would be an excess of fats and carbohydrates, and the all-absorbing and important question then is: How much proteid food should man consume to remain in perfect health, strength and weight?

Statistical studies carried out on large groups of individuals by various physiologists have led to the general acceptance of dietary standards, such as those proposed by Voit and Pettenkoffer, of Munich, and Atwater in this country. The classical experiments made forty years ago by Voit and Pettenkoffer have led to the general acceptance of his standard of diet. And in spite of many proofs that individuals and even nations have been and are living on a much lower standard, especially so far as the proteid part is concerned, physiologists, scientists and physicians, as a body, have been reluctant to depart from the current doctrines of the Munich school, with the result that the old standard of diet calling for 80 to 120 gr. of proteid is still regarded as the true standard in health, and is taught in every school in the land. Only on such a proteid intake, we are taught, can the body be maintained in perfect equilibrium, *i. e.*, as much nitrogen be excreted as is taken in, and the individual remain healthy, strong and keep his weight.

But of late years voices are heard, both in and out of the profession, who claim that this old standard of diet of the Munich school is not correct and much too high, at least so far as the proteids are concerned. They claim that the fact that people can live for a long time with apparent immunity and in good health on such a high proteid intake, proves absolutely nothing but a soundness of the excretory organs and a tolerance and adaptability of the system to various abuses; and they hold that such experiments undertaken on individuals who are guided by nothing but their instincts, habits and appetites, do not answer the question in a strictly scientific manner; and in support of their claim they point to individuals and even nations who live on a much lower proteid value and yet are in perfect mental and physical strength.

To test and determine the validity of these claims, two American investigators, Professors Chittenden and Folin, set to work in a scientific way, but both from different points of view, and investigated the question as to the amount of proteid food that was absolutely necessary in the diet of a healthy person. Professor Chittenden, director of the Sheffield Scientific School of Yale University, and professor of physiological chemistry, published his experiments in an article: "The Physiological Economy of Nutrition." He experimented on three groups of men. First: Five students of the University of Yale, representing the mental workers; second: Three volunteers of the hospital corps of the United States Army, representing the moderate physical workers; and third: Eight men from the University, trained athletes, representing that class doing mental work along with severe physical

labor. These men were at first allowed their usual diet, during which an exact record was kept of their intake and output and also of their strength, efficiency, weight and so on. Then the proteids of their diet were reduced to one-half or even less, allowing at the same time free use of fats and carbohydrates, according to their tastes and inclinations. On this restricted diet their weight at first decreased a trifle, *i. e.*, about five pounds, but soon became stationary, and it was found that not only perfect nitrogen balance was maintained, but that their physical and mental vigor was more marked than ever, and this on a nitrogen output of from 6 to 9 grams instead of 16, representing an intake or metabolism of proteids of but 40 to 50 grams per day.

Then came Professor Folin, working in the chemical laboratory of the McLean Hospital for the Insane in Waverly, Mass., attacking the same question from a different point of view and by a different route; and he published his researches in two articles entitled: (1) "The Law Governing the Chemical Composition of the Urine," and (2) "The Theory of Proteid Metabolism."

I will not weary you with a detailed account of his work, but will mention that, by making a complete analysis of all the nitrogen-containing substances in the urine, he was able to get at quite remarkable results, which prove the same facts which Chittenden proved in a more practical way. The analysis of the urine of two test individuals, doing the same amount of mental and physical work, of about the same age and weight, the one on a diet according to the old standard with a proteid intake of about 100, the other on a diet according to the new standard with a proteid intake of about 25 grams per day, showed the following results side by side:

	Old.		New.
Amount	11.70		3.85
Total N	16.8	Grammes	3.6
Ureatinin N	14.7		2.20
Kreatinin N	0.58		0.6
Uric Acid N	0.18		0.09

You will thus see that the total nitrogen excreted diminished from 16.8 to 3.6, of which the urea nitrogen showed the greatest and most remarkable decrease, from 14.7 to 2.20, whereas the kreatinin nitrogen did not only not diminish, but showed a slight increase. This, according to Folin, proves that we have to deal with two kinds of metabolism: First, the metabolism of food proteids, represented by urea N., and which increases and decreases with the amount of proteid food consumed. Second, the metabolism of tissue-proteids, as represented by kreatinin N., the amount of which remains unchanged and bears no relation to the food, but is solely dependent on the wear and tear that goes constantly on in the tissues of the body during rest, as well as during sleep.

This theory well explains why urea, the metabolic product of food proteid, is not found, except in traces, in the muscles where the greatest amount of wear and tear is going on, whereas kreatinin is found there. It is this kreatinin N., then, which fixes the limit for the lowest possible amount of proteid which should and must be consumed daily to repair the natural wear and tear, and to prevent the destruction of bodily tissues. The actual amount of proteid food equivalent to this amount of kreatinin N. would be about four grams. Nobody, however, would risk to recommend such a ridiculously small amount of proteid in the diet; on the contrary, 10 times that amount seems to be the lowest limit recommended by such extreme advocates of the new diet as Chittenden and Folin. We must not forget that not all the proteid of our food is utilized to repair the daily wear and tear; a great deal of it remains unutilized in the intestines; a part (and nobody knows how large a part) goes to furnish heat and energy, so that after all only a small part of the nitrogen of the food gets to the tissues, there to be converted into the tissue-building material and to be used for making new tissues, and for the repair of broken down cells. We have here a similar phenomenon, as I take it, to what we see in testicular secretion. Nature furnishes millions of spermatozoa when only a few are needed to impregnate an ovum. It seems that nature takes no chance where such vital functions are concerned, as the preservation of the species or individual.

One of my students in the Kansas University, now Dr. Harrington, of Kansas City, undertook, on my advice, to live on such a diet while a student at the medical school and pursuing the work of such. The experiment began about January 10 and continued uninterruptedly until June 1, that is, almost five months, during which time a record was kept of the quantity and quality of the food consumed daily, of his weight and the amount of urine passed daily, and so on. Unfortunately a more detailed analysis of the urine, allowing a comparison between the nitrogen intake and output, was not made for various reasons, principally because such investigations require the use of a physiological laboratory, and unless absolutely accurate have no scientific value. During the test, lasting five months, the number of his meals seldom exceeded two per day; the first being taken about noon, the second sometime in the evening. The character of his meals you can best judge by my giving you a sample of his diet list for one day:

LUNCH.

			Prot.	Fat.	C.H.	Calor.
Meat	25	grammes.	5 gr.	1.25 gr.	..	11
Bread	110	"	8 "	...	55	252
Milk	270	"	10 "	10	..	...
Butter	24	"	..	...	21	189
Sugar	...		..	...	45	180
			23 gr.			802

SUPPER.

Milk	210 grammes.	8	8	8	136
Bread	120 "	7.5	..	60	270
Candy	90 "	..	..	85	320
		15.5			726

In addition it must be stated that the use of fruit and green vegetables, *ad libitum,* was encouraged, and these items were never added to our calculation, as the food value, *i. e.,* the caloric value of these foods is very low and might well be disregarded. It will thus be seen that the amount of proteids consumed daily was about 40 gr. and the caloric value of the daily food seldom exceeded 1,500 calories, and was often not more than a thousand. This, however, I regard as a grave mistake. In the first few weeks the doctor complained about feeling weak and lost about six pounds in weight; but when, on my advice, he raised the caloric value of his food from 2,000 to 2,500 by the addition of more starches, sugars and fats, those initial symptoms of deficient food supply disappeared, his weight increased, and his physical and mental vigor became not only not impaired but was better than ever. The amount of his urine during the first few weeks, when the amount of food was insufficient, decreased to as low a figure as 690 c.c., but later rose to 1,080, at which point above it remained during the rest of the experiment. On February 28 he wrote in his record book that the tired feeling, first complained of, had left him, and that his physical and mental efficiency was brought to a point heretofore unknown to him, a result largely brought about by the supply of plenty of sugar and candy in his food.

Whether it is possible for all kinds of people to live indefinitely on such a low proteid diet without finally showing the effects of it in one way or another, and what is really the lowest figure of proteid intake at which nitrogen equilibrium can be maintained and the body kept in mental and physical vigor, remain for future investigators to determine. This much, however, seems to have been demonstrated beyond doubt, that we have all been using too much proteid food in our daily diet. You must remember that proteids, when metabolized, give rise to a number of crystalline nitrogenous products which are excreted through the kidneys. As long as the kidneys functionate well they will take care of a certain excess; but sooner or later, especially with advancing years, they show symptoms of over-work, and the products of complete or incomplete metabolism flooding the blood or being deposited in the tissues, poison the system and cause various diseased conditions. Even Voit has made it clear that the ideal diet consisted of the smallest amount of proteid food, together with enough non-nitrogenous food to keep the body in a state of physical and mental vigor. What that

smallest amount of proteid food should be seems to have been left for American investigators to elaborate.

Of the economical and social value of such a restricted diet I will not now speak, although it is equally important and far-reaching. The application of this new standard of diet in the treatment of such diseases as Bright's disease, gout, and other disorders of metabolism, is too simple, and its importance too evident to require special mention on my part.

After all it is not what we eat, but what we digest and assimilate, that counts. A superabundance of food, which causes the intestines to be filled with decomposed and putrefying matter, and which leads to mal-assimilation, is certainly a mistake and not wise and economic nutrition.

Whether we attain the latter by the "no breakfast plan" of Dewey, or by following Haig's advice to leave meat alone, or by Fletcherizing our food so as to squeeze all possible nourishment out of it, or by becoming nutarians or fruitarians, it hardly matters. All these fads proclaim that we eat too much and that we will have to curtail our daily quantity of food, if we will live in health and strength and attain a happy and "ripe" old age.

If by these remarks I contribute toward that end in your case, or at least arouse your interest in this subject and in the writings and teachings of Chittenden and Folin, the object of this short and incomplete paper is well attained.

DISCUSSION.

Dr. Joseph Grindon, St. Louis: Nothing could be more important than the subject of the paper to which we have just listened. The charge is justly made against our profession that we do not pay enough attention to diet. The physician's directions should properly begin with a statement of what the patient should eat. To the statement that the fool lives to eat and the wise man eats to live, can now be added that many accounted wise eat so as to shorten their lives. Not only is the amount of proteids that we take more than enough to support life, but it hastens death. I believe the time will come when the years of the Psalmist will be far exceeded and man's working capacity much increased. When that time comes it will be the result chiefly of prophylactic methods and especially in the matter of diet, particularly in diminishing the consumption of the two great enemies of life, alcohol and proteid excess. For some years my household has followed the practice of having meat at Sunday dinner alone. I feel stronger and better than I did before we adopted this plan. We have not grown thinner nor weaker, and our capacity for work has not diminished. I believe attention to these matters to be far more important than the study of drugs.

He asked that the essayist, in closing, explain how he harmonizes the statement that the results of proteid metabolism are precisely the

same whether the proteid be of vegetable or of animal origin, with his other statement that we know nothing about many of the stages of proteid metabolism.

Dr. R. T. Sloan, Kansas City: I merely want to express the wish that such papers should be a part of the program every year, for it is certainly true that the matter of diet has been sadly neglected and the opinion of the profession on the subject is in a chaotic condition. When we consider that the class of practitioners who depend chiefly upon diet are those who administer large amounts of proteins under certain conditions, we are at a loss to account for it. Our neurologist will take a neurasthenic patient and stuff him with proteid matter, asserting that he gets results; but whether the result is due to psychic influence or to the effect of the diet, I cannot say. This has always seemed to me wrong and I have so expressed myself to such practitioners; yet they get results where I have failed, and point with pride to those results. I believe the idea expressed by the essayist is preëminently côrrect. It is the proteids that throw the greatest strain on the organism and it is this which is responsible for most of our dietetic errors.

Dr. John M. Bell, St. Joseph: In my work on intestinal diseases, I have found that a proteid diet is essentially stimulating and the majority of neurasthenics are not benefited by this stimulant. Most gastric cases have a neurasthenic tendency. One drawback to the use of proteids is the number of end products which are generated as a result of faulty metabolism. As far as the proteids from the animal and vegetable kingdom are concerned, there is a difference. While the end product is much the same in maintaining nutrition we find that the vegetable proteids are much more easily digested. It has been shown that they can be digested in thirty minutes, at least they are passed out of the stomach with the abundance of carbohydrate matter in their make-up. This not only takes work off the stomach, but the animal proteids require a much larger percentage of hydrochloric acid and require from an hour and a half to four hours for the process of digestion, so that the stomach has practically no rest. Because of the general influence that it has upon the nervous system, there is much to be said in favor of a large carbohydrate diet and a small proteid diet.

Dr. R. T. Sloan, Kansas City: I would ask the last speaker for his authority for the statement that the vegetable proteids are more readily digested by hydrochloric acid than those of animal origin. The idea is new to me and I am skeptical.

Dr. John M. Bell, St. Joseph: I do not recall just where I found that statement, but I make it a routine practice in all gastric cases to make a chemical examination of the stomach contents and, in the bulk of cases, of the bowel contents. I find that this rule holds with the average stomach, *i. e.*, the complete absence of vegetable proteids in thirty-five minutes, and, on the other hand, the long retention of animal proteids, which will sometimes be there several hours, even in the pres-

ence of large quantities of hydrochloric acid. Usually there is present in these cases neurasthenia, some gastroptosis or some psychic disturbance. A carbohydrate diet has essentially a sedative influence upon such cases.

Dr. Wolf, in closing: A restricted proteid diet only applies to full-grown individuals who are in perfect health. It does not apply to those whose condition is that of under-nutrition. In those who have lost much weight you will have to give an excess of proteids. This standard applies especially to people of 40 years and over. That is the time when the excretory organs begin to get tired and when it is time to call a halt. I believe we would all live longer if we, after we are 45 years old, would live according to the new standard of diet. While young, the organs will take care of the excess of proteids so long as the individual is in perfect health. Since I have been living more and more according to the new standard, I have felt better than I have in years. I used to ache in all my limbs in the morning, but since I have cut down the proteids, this aching has disappeared. Dr. Sloan is correct; the neurologists over-feed all their patients and they make no distinction between the cases. I recall one case of neurasthenia and hysteria. The patient was a woman 60 years old, who was put on beefsteak three times a day, and she continued to grow worse until she was put on a proteid restricted diet; she has since been better than for years. Of course, when you have a patient in a state of under-nutrition, you have to force the diet to put on weight. Dr. Froehling says it makes no difference whether you eat animal or vegetable albumin. I believe that is correct. But when we eat animal albumin we consume a highly stimulating food, and that is not true of vegetable albumin. Meat contains large quantities of extractives and these extractives are highly stimulating; that makes a difference between the animal and vegetable albumins. That the body has means of disposing of an excess of proteids is entirely true. But at a certain age that power of disposing of this excess is exhausted. Dr. Bell says that the vegetable proteids are more easily digested than the animal proteids. I do not believe that is correct. We know that it is highly difficult for the stomach and intestines to dispose of cellulose and there is a much larger waste from a vegetable diet than from an animal diet. The animal diet leads to a stimulation of the gastric mucosa and under an animal diet the glands will secrete more hydrochloric acid. I think that is the reason that on a meat diet he finds more hydrochloric acid than on a vegetable diet.

PROBLEMS AND POSSIBILITIES OF A COUNTRY PRACTITIONER FROM A SURGICAL STANDPOINT.*

By T. F. Lockwood, M. D., Butler, Mo.

In order to break into the Surgical Section, I must, of course, come forth with something surgical; therefore, I have chosen, for my passport, fractures and their treatment. This is an old, old story, but it is like the Gospel—it grows brighter and better with each subsequent telling. There is no one surgical subject more thoroughly discussed and yet teeming with newer interests and newer ideas, than the subject of fractures. It is the index finger that points the young physician toward the sun-lit hills of surgical fame. The first surgical case of any note of the young doctor, perhaps, was a broken bone. From that very hour, this learned medical larva could feel himself rapidly hypertrophying into a Wyeth, a Sayre or some other great surgeon. It is well to be thus inspired with such feelings; it is a normal stimulus to reach the professional goal which the ambition of most progressive physicians craves.

There is no part of the science of surgery so intricate and wrought with so many lamentable difficulties as external or extremity surgery. I have the utmost respect for abdominal surgeons, for I have realized their usefulness with much appreciation, in my own family, but the internal surgeon may do his work with impunity, and with assurance that if his patient lives or dies there will be no visible scars or deformities to mar the beauty and contour of the living form or unsightly contortions and contractures to meet the public gaze at the coffin lid-laying, nothing, whatever, to detract from the solemnity of the occasion. He may do a very clumsy piece of work inside the abdominal cavity or elsewhere about the trunk, and cover it up deceivingly well with a beautiful external incision with its hidden sutures, or with ends cut uniformly pretty; but not so with the poor, lonely, country bone-setter or surgeon who is called to adjust the fractured framework of a man. He is deprived of such helpful bulwarks as the former and must necessarily do his work in the open and on the surface where inspection is freely invited at all times. You, who apply your trade as country surgeons, let me implore you to use the best means and mechanical appliances ability can dictate. It is you who do this kind of work that are frequently made defendants in damage suits. The abdominal surgeon is most immune from such attacks by the fortification afforded above, and by having at his command several assistants to aid him in the operation and in the courts if need be. It would be far safer, from a damage

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point of view, to murder a patient on the operating table under the disguise of an abdominal operation, than to maim in order to cure a fracture adjustment. The former event would be buried with the silent past, while the latter would remain a living reminder of our bungling work and a walking interrogation point for snitch lawyers. It is the cosmetic effect that is most desired by the fastidious people, rather than a physical and functional perfection.

The osseous system, as you know, plays a very important part in maintaining the cosmetic contour of man. It is the foundation or groundwork for the specific shape of the body, and any deviation of this framework from the natural model is readily noticeable in the outward appearance of the individual. If the surgeon fails to repair an injury as neatly as nature shaped the parts in the beginning, he is held responsible for the defect, and either sued or censured for not being able to compete with the Great Master Mechanic in doing His plastic work of moulding and modeling man in his primitive creation. The laity expect too much of the surgeon in treating fractures. It makes no distinction; whether a simple, compound, comminuted or impacted fracture, all are held with the same degree of interest and expectancy; the most significant is expected to heal with the same good results as one of less magnitude.

There are two classes of surgeons, the cutting surgeon, found about cities and hospitals, and the manipulating surgeon of the common rank and file of the profession throughout the country districts. It is the latter to whom I appeal more earnestly, for they constitute about three-fourths of the entire profession. Every country practitioner belongs to this class. You of the bone brigade, listen attentively while I relate from an experience of twenty years of practice, principally in the rural roughs of the Ozark mountains. Being called miles in the country to treat fractures in the early part of my career, I would set a broken bone, apply my dressing and depart with instructions to report, or if it be an ambulatory case, to call at my office in a few days for inspection and redressing. About the time they should have reported, inflammation, pain and swelling would have subsided and they would be feeling so much better that it seemed folly to them to make a trip to my office just to report, when all was seemingly well with them. I have since realized that the lesson learned from such negligence profited me much, but it was at the precious expense of the patient's welfare, due, of course, to their disobedience of orders. When inflammation and swelling abate, when the patient feels too well to report, is the very time we should watch closely after our patient's welfare. When the swelling subsides we lose the mechanical effect afforded by the splint, immobility and support are both lost by shrinkage of the tissue, allowing the bandage to slacken, or if it be a plaster cast, so much the worse by permitting the muscles and tendons to have too much play beneath the cast, thereby allowing displacement and a lapping of the ends of the fragments by

muscular contraction. It is during the agglutinating period, which is more active the first ten days, that we must train the broken bone if it be a leg, or an arm, in the proper line for natural results. In fractures about the face, especially the nose, be extremely careful to avoid deformity, which, in many cases, is inevitable, for if there exists the slightest disfigurement of the physiognomy the patient will hold an uncompromising demeanor toward you as long as he lives.

As the subject is too lengthy for a limited essay, I shall only touch on the salient points of some of the most difficult and dangerous fractures to treat, those that may leave death and deformity in their wake.

I shall offer as the introductory of the series, fracture of the skull. There is but little to say regarding this class of fractures beyond the surgical care of the soft parts beneath, which is a frequent concomitant of such injuries. I shall relate but three of my most recent cases to illustrate the magnitude of such fractures.

First: A premature explosion of a blast in a well, blew a stone into the frontal region of the head of a well-digger, crushing in a hole the size of a silver dollar at the lower border of the os frontis near the junction of the nasal bone. Both eyes were destroyed, one bursted and torn out entirely, the other blinded by the entrance of pieces of stone and powder, but some months afterwards a peripheral iridectomy was performed by a Kansas City specialist and sufficient sight restored to enable him to get about. I removed broken fragments of bone, dirt and stone, with about half an ounce of brain matter from the left lobe of the anterio cerebri. After cleaning out the debris and smoothing off the broken edges of the cranium, I packed the cavity with five per cent. iodoform gauze, arresting all hemorrhage, replacing it every day, after the second day, for a period of two weeks. The wound healed by granulation as there was nothing remaining to make flap, as the integument had been destroyed by the impaction. I might mention incidentally, to show the miraculous recovery, that his right hand was torn off and the forearm amputated midway between the hand and elbow. Nature did herself proud in repairing this extensive wound in the cranium by bridging over the deep chasm with new skin, and, too, without the aid of a silver plate as predicated by a few fossilists present, and the patient made a rapid recovery, except a slight mental defect apparent at times.

Second: A fork trolley, weighing about 50 or 60 pounds, fell twenty-five feet from the crest of a hay-barn, striking a twelve-year-old boy on the frontal eminence of left side of skull, driving a hole in the head, two and one-half by one and one-half inches. The fractured bone was of many pieces and greatly depressed, but held intact by the eggshell-like fracture. After enlarging the scalp wound, I removed the key fragment and, with ease, removed the remaining bones, of which many were hinged to the cranium by a marginal unimpairment of periosteum. The brain substance was little disturbed, as the meninges withstood the blow exceedingly well. After washing out a few hayseed and hair with

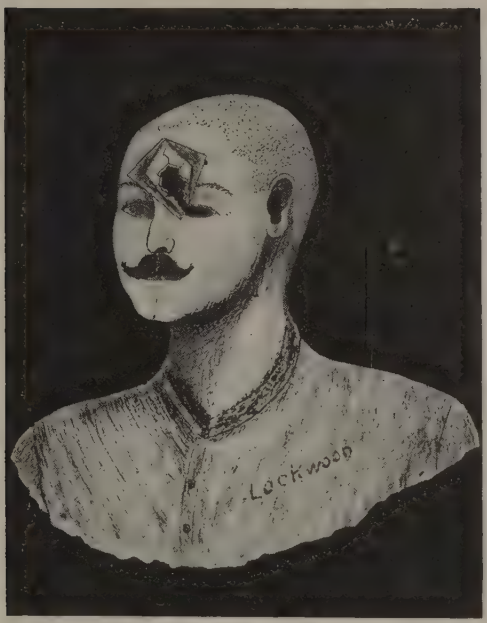

Fig. I.

Fig. II.

sterilized water, and detaching all spicula of bone, I packed the cavity with gauze as in the preceding case, suturing the scalp over the packing, leaving a few ununited sutures at the lower end of wound by which to remove the gauze at a subsequent dressing. The mythical silver plate was dispensed with in this case. I merely mention the silver plate for the edification of the young practitioner, for such treatment of skull fractures has been imputed to country surgeons. In less than two weeks this lad was able to ride ten miles to town with no ill effect therefrom.

Third: A man, fifty-five years old, was injured by an explosion of a stationary boiler, as follows: A hole two and a half inches long, by three-quarters of an inch wide, was broken in just above the occipital protuberance, cracking the skull in various directions radiating from the wound proper, ranging from one inch to two inches in length. The meninges were also lacerated, considerable hemorrhage resulting. There was complete blindness from pressure as the injury was directly over the area of sight. His nose was broken, upper lip cut in twain, face, neck and body in many places were severely scalded by hot water from the bursted boiler. In addition to all this, his right thigh was fractured in two places. When I reached him two hours after the accident had occurred, he was pulseless and in a state of profound collapse. With the aid of good assistants, I gave heart stimulants with the needle and operated during shock, while hot bricks and hot water bottles were constantly applied to establish reaction. I shaved the entire head and washed out sand and cinders from the wound with sterilized water, and after cleaning the scalp and wound thoroughly, I enlarged the scalp incision, peeling back the scalp that I might see more clearly the field of operation. Broken bone and blood clots were removed with a small amount of brain substance adhering to the latter. After removing all foreign matter, I again irrigated the field with boiled water and proceeded to pack the cavity with gauze, closing the scalp wound with silk sutures, leaving a space of one and one-half inches at the lowest point of wound as in the two preceding cases, for the removal of dressing and replacing same. The external surface of wound and for several inches roundabout, was covered heavily with a dusting powder composed of equal parts of calomel, acetanilid and boric acid. Iodoform gauze, with a cotton cap, held in place with the usual head bandage, completed the dressing. The leg was treated with the old method, the weight and pulley and sand bags, a method I shall mention later on. I am proud to proclaim to you, that this man made a complete recovery with perfect vision and with scarcely a perceptible shortening of the limb.

I report these cases of skull fractures, not boastingly, but because of their surgical importance and to show the wonderful results of nature in her faithfulness in restoring damages done to the human anatomy. There are many such cases, and even greater than these, recovering in the hands of country doctors every day, and had you city surgeons heard

of them, you would have long since grown envious of their skill. This wonderful work is being done in the surgical field by country physicians, and, too, with nothing but improvised conveniences of their own natural resources. Do not look with professional derision upon the country doctor who attends this society, who may occupy a back seat; he may be an unpolished pearl gleaming with experimental knowledge within himself that would be a grand inspiration to any surgeon to possess.

The next series shall be: Fractures of some of the long bones and their treatment. This form of surgery places a greater responsibility on the surgeon, from public criticism, than any other class of work he

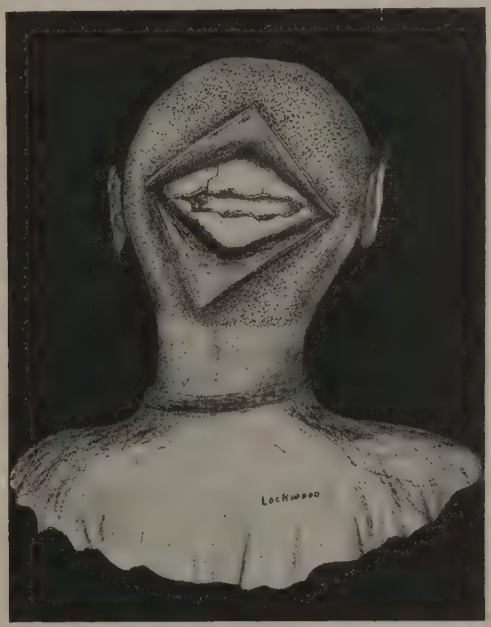

Fig. III.

may be called on to perform. The intricate cases just related, elicit less public comment than a simple fracture of the forearm. If the patient dies from the former injury, it was nothing more than the laity expected, and if he gets well, it is not slow to credit results where it ultimately belongs. But if we should have a Colles' fracture in a subject with a tuberculous, rheumatic or syphilitic diathesis, and get contractured fingers and ankylosis of the wrist and joints, a deformity deplored by all surgeons, we have rated ourselves before the public as incompetent to do the work demanded of us as surgeons.

While speaking of Colles' fracture, let us continue through its course of treatment. This fracture, as you know, occurs at the lower or

carpal end of the radius and I shall not go into details of how it is produced or what takes place, etc., for it is more easily diagnosed than any other fracture in the whole body; the "fork deformity" is nearly always present and noticeable at a glance, therefore, I shall pass at once to the treatment.

Having first familiarized ourselves with the anatomy of the parts, we know what displacement of fragments we have to deal with after ascertaining the form of fracture, or in what direction the line of fracture runs; we have a strong assistant grasp the forearm near the elbow, and taking hold of the patient's hand, as if going to shake hands, if the right wrist is broken, use your right hand; if the left, use the left hand. In doing so, we keep the hand of the patient in a natural, relaxed position midway between supination and pronation. Having grasped the patient's hand firmly, and with the free hand to steady the fragments, slowly pull on a straight line with the forearm, gradually increasing the extension until the hand is extended to its utmost. If you are not a strong man and your patient be a subject of great muscular strength, always administer an anesthetic, for you must, by all means, separate the fragments from all interposing structure before allowing them to assume their coaptation. Holding the hand at full extension, slightly supinate and pronate the hand in quick succession to disengage any hanging tissue that might be reluctant to free itself, passing the free hand over the seat of fracture, gently adjusting the fragments, and when all is well, lay the limb onto a previously-prepared splint of your choice, provided you do not prefer the plaster of Paris splint, which requires a different method of application. This routine management applies equally as well to fractures of the arms. Extension and counter-extension, is, indeed, essential to facilitate perfect union in fractures of any long bone. This is where many bad results have their origin, by not overcoming muscular contraction throughout the progress of solidification of bony union. I have long since abandoned the plaster splint in the treatment of Colles' fractures. It fails to yield to the conformity of the member if there be secondary inflammation and swelling of the parts, constricting and strangulating the hand, requiring an immediate and unseasonable removal of same. It prevents easy and oft inspection that all such fractures must have to insure normal results. The only bad result I ever had in treating this fracture was when I used the plaster of Paris cast. I have had excellent results with its use notwithstanding, but I do not believe it is as commendable as other dressings. It matters not so much what kind of splint used, as we all have had many good results from our favored splint, which constitute various forms, showing that the splint plays a minor part in the restoration of function and perfection of the hand and wrist, but we must first adjust the fragments correctly, and see that a normal position is persistently maintained throughout the entire reparatory process. This we can only do by frequent inspection, many cases requiring daily attention.

My choice of splint in treating Colles' fracture, is the common wooden splint, extending from a little over half way between the elbow and wrist, down to the lower border of hand. There are many patent splints used for this particular fracture, but they afford no better results than obtained from the board splint. Pad well the anterior and posterior surfaces of the limb with clean, soft cotton. In addition to

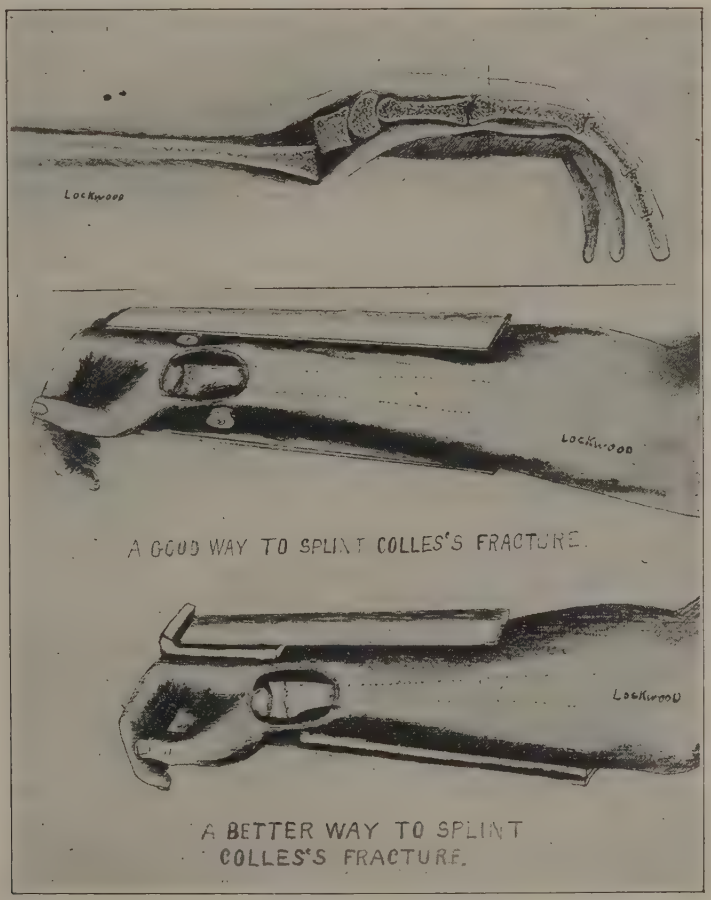

Fig. IV.

this, cut a piece six inches long from a narrow roll of absorbent cotton, placing the pledget on dorsal aspect of hand, extending from half an inch to one inch below the fracture-line, down to the knuckles. Place a like piece on the anterior surface of forearm, extending from seat of fracture, upwards the full length of splint, thereby maintaining a fulcrum effect at the point of fracture, over-correcting the "fork" deformity

if possible. Some prefer a roll of cotton or a roller bandage about the size of the thumb, placed between the splint and forearm one inch above the line of fracture, and a like compress on the dorsal side of wrist just below the seat of fracture. This is not bad treatment, but there is more danger of strangulation of the blood vessels by a more abrupt pressure than we get in the former method. The fingers drop naturally over the end of splint, relaxing the muscles more completely than any other position, because this is the attitude of physiological rest for the fingers, besides allowing free movement of same, which exercises the tendons that pass the field of fracture, preventing blood stasis and increasing blood appropriation to the repair of the parts. An ordinary roller bandage is now applied and the hand carried in a support suspended from the neck. Since using this treatment, with frequent inspection so emphatically essential, I have had no deformity of any consequence resulting. There may be a remote deformity develop gradually and slowly in young subjects as they approach maturity, however; therefore we should guard well our prognosis, however perfect the job may be when turned out. This deformity is inevitable in rare cases, and the surgeon is in no way responsible for the condition. It is due to absorption of the radial epiphysis in the effort of nature to repair, arresting the development of that bone, while the ulna continues to grow in length without hindrance, the radius failing to keep pace with it, consequently there slowly develops a curvature of the forearm to the radial side, the cause of which to most patients is incomprehensible. We do not get such deformity in the adult.

The next fracture of surgical importance to be considered, and one that gives the surgeon no little anxiety, is that of the lower end of the humerus in close proximity to the elbow joint. If the break be confined to the shaft of the humerus we have less difficulty in maintaining normal coaptation, but if either condyle, or both, be broken, then the situation becomes more grave. A fracture in the elbow joint used to tax my limited knowledge to its utmost in arriving at a definite conclusion as to what kind of a fracture I had to deal with. It was as difficult to determine as a fracture of the neck of the femur and remained thus until I familiarized myself with the anatomy of the elbow joint. I kept before me that part of the skeleton until I could close my eyes and draw a picture of this particular part of the anatomy. I have examined and manipulated hundreds of healthy or normal elbow joints just to familiarize myself with the normal contour of the joint that I might enable myself to recognize readily any deviation from the natural shape of the bones forming the joint. The most frequent cause of disastrous results in treating these fractures, is because we fail to properly adjust them in the primary treatment. We do not know whether we have fixed the fragments as they should be or not, because of our lack of familiarity of the parts. Let me emphasize the necessity of every young physician present, and older ones as well, if they find themselves rusty, to get

an arm of a skeleton, if they do not already possess one, and study its mechanism until you can see its shape in your dreams and in your waking moments, and then study the normal arm, manipulating the flesh and tissues round about the joint until all is so familiar to you that a mere touch would reveal the slightest deviation or deformity. If you will do this you will never regret the time taken in the study.

The treatment of elbow fractures has not changed and never will change, materially from the plans adopted by surgeons of an early age. The great progressive strides made in surgery in the recent past, have not been along the line of bone surgery, but from the wield of the knife, the

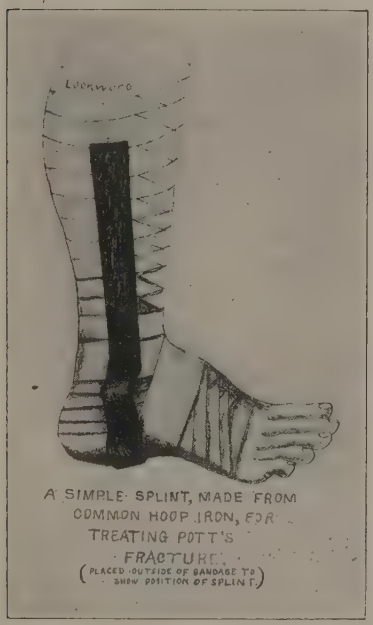

Fig. V.

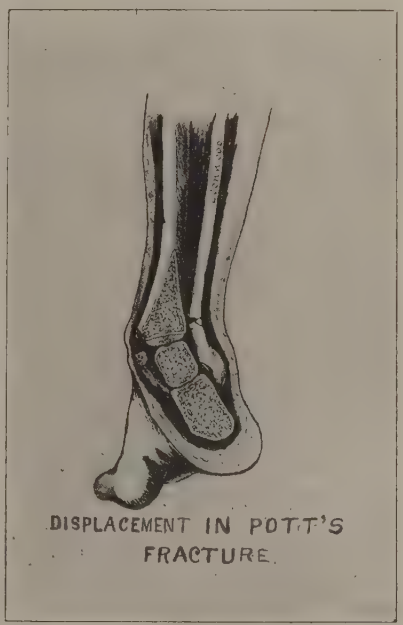

Fig. VI.

incision and the suture, the hemostat and ligature, and from a burning desire of surgeons to accomplish surgical feats as yet unheard of and that cannot be found in the limited field of bone surgery.

The right angle splint, either flat or cup-shaped, is universally used by most surgeons. Some are made of felt, others of leather, wood and gutta-percha. If the fracture of the humerus be in the condyloid region, or if either condyle is broken, or if the fracture in any way connects with the joint, I place the forearm at an angle of about forty-five degrees, applying a splint, of course, of like angle. This is not original with me, however, neither are all the thoughts in the foundation of this essay, but I am merely narrating that which has long since proved the

best treatment, not only in the hands of those formulating the methods, but in my own hands from practical application. By putting the arm in this angle you allow, as you know, the olecranon partially to assume the posterior fossa or depression, thereby helping in maintaining the relative position of the joint. The flexor region of the arm must be well protected with cotton before applying the bandage, to prevent strangulation. This fracture requires close inspection from time to time, and after the end of the first week, passive motion must be gently but persistently practiced every day to prevent ankylosis of the joint. No fracture can put a patient out of physical commission like an ankylosed elbow joint.

I shall now consider a frequent fracture that takes place just above the ankle-joint, termed Pott's fracture. Taking for granted that all are familiar with the pathology of this fracture, I shall enter at once into its treatment. This, like Colles' fracture, is readily recognizable by a peculiar deformity existing—eversion of the foot, preternatural mobility in the fibula two or three inches above the tip of the outer malleolus and much pain on attempt at using the foot. If it is nothing more than a Pott's fracture, simply a break in the fibula, the adjustment is unlike that of other fractures of long bones inasmuch as it requires but little traction on the foot in its adjustment, as there is no shortening of the limb, or overlapping of fragments, the tibia, the chief support of the leg, being intact. It is only when both bones are broken that we need to enforce extension and counter-extension in setting of the limb. The only thing that may appeal to you in treating this fracture, is the simplicity by which it may be treated. I have never had untoward results in a single case in all my experience. Simplicity in the adoption of mechanical appliances, is the true art of bone surgery. Extension, immobility, rest and comfort, are the chief aims sought in treating fractures, and all are essential in caring for Pott's fracture, except extension. From the physiological construction of the ankle-joint, and the peculiar pathological condition existing in Pott's fracture, shortening is seldom looked for in a simple fracture of the fibula. The length of the tibia, the larger bone of the leg, is unchanged and we have but to line up the foot with the limb, over-correcting the tendency of eversion of the foot, applying an immobilizing splint to the outer aspect of leg, and our dressing is completed. One of the best splints I have ever used, one that meets the economical conveniences of country doctors, and one I prefer above all others, is a splint made from hoop-iron. Take a piece about eighteen or twenty inches in length, and from one inch to one and a half wide, hammered out to fit the contour of the leg, over the external malleolus, turning under the heel and ending at the inner margin of sole of foot. Cover well the foot, ankle and leg with soft cotton, then apply the splint, bending here and there till it adjusts itself perfectly to the parts, holding it in place with an evenly applied roller bandage. Applying the splint to the outer part of limb, gives better advantage in over-correcting the eversion of the

foot, thereby bringing in closer proximity the separated ligaments that occur in this fracture. There is no extension necessary but a constant vigilance is required to see that the desired position is maintained throughout the reparatory period. If this is done you will be rewarded with favorable results.

Fractures of the femur, either of the shaft or neck, require greater skill in adjustment. We have more powerful muscles to deal with

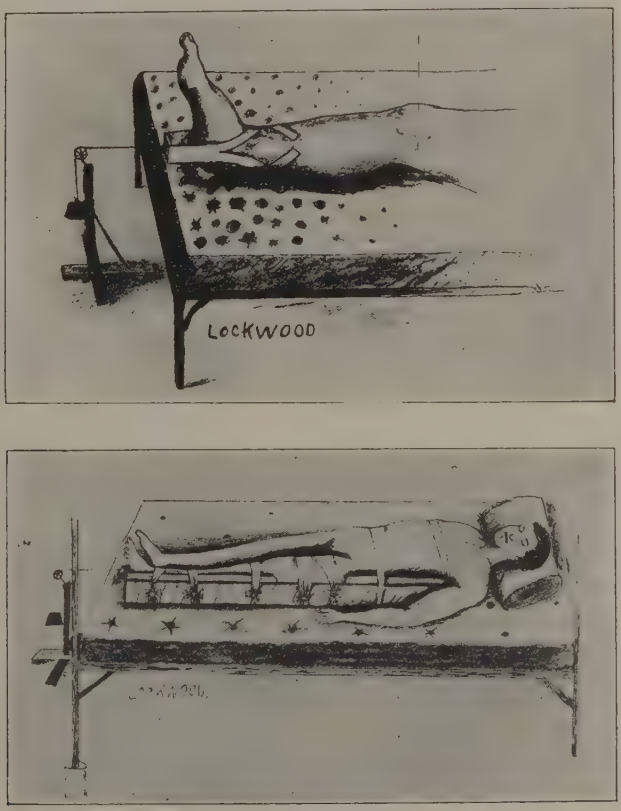

Fig. VII.

here than of any part of the body, and owing to the deep and dense structure covering the field, we cannot be so accurate as to the character of the fracture, and our anxiety deepens with the thought and possibility of a permanent cripple haunting our memory of the critical past, throughout our existence. In fractures of the femur, with our mind's eye delve deep into the structures surrounding the fracture, and with digital assistance arrive at a conclusion, though much mystified by obscurity, adjust the fracture as best we can, apply our dressing and can only

hope at best, for good results to follow. No one knows what results have been obtained till the dressing has been permanently removed. There is no fracture requiring greater extension and counter-extension, and more prolonged, than fracture of the femur, more especially the neck, and there is no better appliance for this purpose than the old-time weight and pulley, let the splint be what it may. In fractures of the neck of femur, we must endeavor to procure double extension, one at right angle with the other. We must overcome muscular contraction that tends to pull the broken fragment toward the body, over-lapping and shortening the neck, and at the same time we must extend the limb on a line with the body to overcome an upward tendency of muscle activity. This you get more perfectly with the combination of Buck's extension and Hamilton's long splints. The long splint must be padded in a manner so as to hold the splint well away from the hip near the joint that we may have ample room to anchor the thigh to the board with a broad bandage well up in the crotch, giving a fulcrum leverage where it is most needed. I prefer the weight and pulley appliance attached to the leg by adhesive plasters independent of the long splint. When this dressing is adequately applied, we do not need to disturb it unless it be to tighten up the crotch bandage occasionally. The extension must be sufficient at all times to hold the limb an equal length with its fellow. This, of course, requires frequent comparative measurement of both limbs. This same splint may be used in fractures of the femur anywhere in its shaft, but I prefer a less cumbersome one. The weight and pulley, with adhesive plaster attachment, as described, is par excellence in maintaining extension in fractures of the thigh and leg, but as a splint I prefer short coaptation splints, such as are made of wire, fiber or leather. If I have none of these at hand, I substitute the old infallible wooden splint, extending from one joint to the other on either side of the fracture, held in place by adhesive strips. This dressing is easily applied and permits frequent inspection of the parts. When shrinkage slackens the bandage, it is at once discovered and corrected, by tightning up the adhesive strips and bandage before any damage is done. With extreme precaution in the application of these old-time dressings, which have been but slightly revised by experimental use, will be found the best safeguard against disappointment and deformities found in the realm of bone surgery.

THE MISSOURI STATE MEDICAL ASSOCIATION: WHAT IT SHOULD MEAN TO A MISSOURI DOCTOR.*

By Tinsley Brown, M. D., Hamilton, Mo.

The Missouri State Medical Association has been in existence for fifty-nine years, but for much of this time it was so merely in name. To become a member and participate in the proceedings of each yearly meeting, it was necessary to have a certificate from some local society before the doctor could register. In a few counties there were organized societies, and in many portions of the state there were district societies. All of these were independent of each other and were carried on without system or any general rules to do systematic work and bind them to the State Association. There was no foundation for our State body, and consequently it meant but little to the Missouri doctor. The custom was for the doctor who desired to attend a meeting to secure a certificate from his local or district medical society, fill out a certain blank and attach it to his certificate and accompany the same with the annual dues, which generally made him a member for that year. If the doctor was not a member of a local society, he must be indorsed by two members of the Association. This procedure had to be repeated each year. When the plan was conceived by the American Medical Association to make the county society the starting point for all who desired to be members of the State Association, everything was in a chaotic condition as far as our State was concerned. I do not believe there were more than a dozen county medical societies in existence. In 1901 the first step taken was to make the county society the unit of organization, and the constitution was adopted at St. Joseph in 1902. It was plain to the promulgators that if the proper effort was made our Association would mean much to the Missouri doctor. During the years of 1902 and 1903 the officers of the State Association made a great effort to have county societies organized, and at the meeting held at Excelsior Springs in 1903, thirty-six county societies, four district and one academy of medicine sent delegates to the meeting, out of a possible 115. From this time the Missouri State Medical Association meant something and now, at this meeting, nearly every county will be represented. Organization means progress. Frequently the doctors of the same county were unacquainted with each other, and the state at large was a foreign country to many. Instead of being interested about medical societies and organized efforts to better his own knowledge, he staid at home and spent his time in abusing his competitor, who, in his

*Read before the Missouri Society of Medical Secretaries, Jefferson City, May, 1909.

eye, was a thief and a vagabond. Many did not know the advantage afforded by frequent association with other doctors, but staid at home to secure business while his neighbor was away at the medical association, or was afraid that he might lose some of his patrons that he had secured in this manner. To such a doctor our Association means nothing, and the profession means nothing to him but the money that he might secure. He was in a rut and will stay there. Such a one is apt to imagine that his medical education was finished at graduation, but the fact is he grows smaller as years pass and is, like the bird, larger in youth than in old age. The State Association should mean much to every doctor, and those who do not become members of the county society and the State Association cannot do as good work as those who are active in society work. When reorganization was commenced in our state, there were between three and four hundred doctors who belonged to our Association out of a possible six thousand, and now, after about seven years of strenuous work, scarcely half of the doctors in active practice have been induced to unite with the county societies, and more than one-half of these are inactive, cannot be induced to take part in the scientific work of the county societies and have no time to attend the State Association, either on account of overwork, or from the fear that if he should be absent he might lose the patronage of some one that he has secured while his neighbor was attending a medical society. To such a doctor the Missouri State Medical Association can mean but little.

The State Medical Association should be near and dear to every doctor who has the good of his profession at heart. The county medical society is the unit of the large body, and each member can get the benefit of what it can accomplish. All laws that have been enacted, regulating the practice of medicine and surgery in Missouri, have been brought about by the efforts of our Association. All laws on sanitation came from the same source. The pure food law came from the efforts of organized medical men, backed by ours and other state medical associations. The better education of the physician has come from persistent efforts of such associations as ours.

The Association should mean much to the Missouri doctor as it is the source of much information. Reading the text-books and the medical literature of the day should not be discouraged, but much can be secured from exchange of opinions that cannot be learned by reading. The physician who does not mingle with other members of his profession by attending his county society and state association becomes circumscribed in his habits, is not up with the times, and thinks the whole world's knowledge is within himself. It should mean much to the doctor who is in good standing in his State Association, in both a social and business way. No first-class insurance company cares to have a doctor make examinations who is not an association member. No railroad should want a surgeon who could not be made better by being an

active medical society member. It is also a mark of respect, when away from home, to be able to show that you are an Association member. One of my doctor friends was on the Pacific coast not long since, when he had occasion to secure some money on a draft. There was no one near who could identify him, but fortunately he had his cards showing that he was in good standing in his medical societies. This was sufficient, for he secured the money without delay. In some states in order to register by reciprocity, the doctor must show that he is a member of his county medical society, as I have received letters from both Colorado and South Dakota in reference to those who wished to register in this way.

Membership in the Missouri State Medical Association should mean much to the doctor, as it protects him in malpractice suits, to a certain extent. In many instances bad advice has been given by some doctor, in order to get even with his neighbor, or from some motive that would not exist if he was an active member of his county medical society and state association.

While scientific work is one of the main objects of our organization there is another that is hardly secondary to this, and that is to promote friendship and good-will among the members. Blackmailing, strife and envy should be banished without the walls of our Association. The best of doctors are liable at any time to be victims of blackmailing lawsuits, from the ill advice of one of the profession who has not the good of his fellow physician at heart, and who is an injury to his calling. The large acquaintance that a doctor makes, by membership and attendance of our Association, is worth more than can be calculated in dollars and cents. I would regret exceedingly to be deprived of the friends that I have gained by my long membership in our Association. I only wish that I could do more than I have in furthering the good-will and friendship of my chosen profession. Many that I have met here and elsewhere, have passed over the silent river, from whence no traveler returns, but their fond memories remain with us. O memory! if it was not for thee, how sad this life would be.

Our Association means much to the honest, painstaking doctor who can see something beyond the mere matter of money, and is always trying to be better prepared to relieve pain and cure the sick. It means much to the physician who can leave his professional duties long enough to attend this Association, in order to be able to do better work in his county society. He is sure to be made broad-minded and can then, in many instances, see his own faults as well as those of others.

THE MISSOURI STATE MEDICAL ASSOCIATION: WHAT IT SHOULD MEAN TO THE STATE AT LARGE.*

By E. C. Grim, M. D., Kirksville, Mo.

This subject, when considered in all its details, is far-reaching and vitally affects every home in the state in health and happiness.

At some time in the near future, to be a member of this Association should denote to the public a perfect doctor, or as nearly so as a man may become; one whose paid duty it is to keep the people well rather than treat the sick.

The state should want the physician to come into politics to make more and better sanitary regulations, and more and better boards of health, and invest them with the authority and power to prevent and stamp out disease.

The lawyers have been the predominating men in politics and naturally have devoted their time to matters of equity and crime. They have given us an admirable system of courts from that of the justice court to the international tribunals of arbitration.

It is not a criticism to say that it has been impossible for legislators to carry out the sanitary idea, because only a few physicians let it be known that they wanted any laws at all, and those that did so were pretty well divided. Hence, the condition of medical legislation. But when our Missouri doctors get broke to their new political harness, and when the great profession of the state becomes completely organized, the public will have health laws to live by. They will have local boards of health in every village and county with a health officer who is qualified to superintend the sanitary conditions of his district and who is a grand jury in himself to find the offenders against public health. These things can only be brought about by the combined efforts of the members of this Association.

When the health laws and the courts of health are a reality the public will go to the physician for advice in matters of health just as he now goes to his lawyer for advice to keep him out of court.

Dr. McCormack, in his recent lectures over our State, called attention to the great sacrifice of life, usefulness of the individual and money, from preventable disease; the misery and suffering and heart pangs from these untimely deaths cannot be estimated. We have no statistics in Missouri, as you know, but it is safe to say our loss is equally great.

*Read before the Missouri Society of Medical Secretaries, Jefferson City, May, 1909.

Our people have a right to expect us to blot out these contagious diseases.

The people should have pure air to breathe, free from dried sputum and microbes; they should have pure water and no whiskey to drink, food to eat that is clean, well preserved and wholesome. Flies, mosquitoes, rats and other contagion-bearing animals should be exterminated. The houses should be built from a sanitary standpoint and the cities and towns should have proper sewerage systems.

The State should expect the medical association to do these things, and when they are done most of the untimely deaths will have been prevented and our expectancy and usefulness will probably be doubled and we will all be healthy, wealthy and happy.

THE PROSECUTION OF IRREGULARS: FROM THE EXPERIENCE OF A COUNTY SECRETARY.*

By Marshall A. Smith, Gallatin, Mo.

When requested to prepare a paper on this subject, I felt some hesitancy in acceding, not because the subject was not of great interest to me, but because there are others present, no doubt, with greater experience in this work, and more capable of handling this subject. However, it is a subject of interest to every one of us, for the irregular practitioner is one person that we all—to our great discomfort—meet at some time; and it is a great satisfaction when we can file a complaint, see them pay a fine, then "fold their tents and silently steal away."

The natural history of the irregular is interesting. We are likely to think it is comparatively new, or at least fostered by popular education and that this unscrupulous struggle for success is a characteristic of our day; but irregular practitioners date from the limits of time; they, like the poor, are and always have been with us. The underlying factor in their success is a readiness to promise to cure anything and everything. Their apparent self-confidence is so unbounded that even the skilled physician begins to wonder if the quack has not some secrets not possessed by the profession; but on close examination we find their principal element of success is their knowledge of human nature, and their skill in foibles and credulity.

The irregular has seldom been prosecuted because we have had an imperfect organization, have not educated the people along this line, and they, therefore, fail to appreciate him in his true light and have

*Read before the Missouri Society of Medical Secretaries, Jefferson City, May, 1909.

always deemed him a harmless violator of the law. We are now, not too soon, beginning to correct this impression, insisting on a more vigorous enforcement of the laws and the granting of more power to our State Board of Health.

I was asked to write about a secretary's experience, but it would be better in this case to say the experience of the president and secretary, for in our work our president, Dr. W. L. Brosius, was associated with me, and was a willing and aggressive worker, and together we undertook, by the direction of the County Medical Society, to rid ourselves of one of the worst of irregulars.

He came from St. Louis, established himself as a "masseur," and it wasn't long until he was treating everything—varicose veins, cancer of the stomach, diabetes—and producing, through ignorance, abortions, peritonitis and death. This man seemed to have a great personal charm or a hypnotic influence over those calling on him, and his followers grew from a few to many, and, as is the custom with the followers of these men, they were of our very best people.

When questioned he claimed to be registered in St. Louis and a graduate in medicine. The St. Louis County Secretary investigated his claims and found him neither a graduate nor registered. He, through friends, enlisted our prosecuting attorney in his behalf, who advised us not to prosecute on account of injury to our own practice. In spite of this advice and considerable loss of practice, we continued collecting evidence, employed an attorney, and had him arrested for practicing medicine without a licence. Before the trial he formed an agreement with a regularly licensed physician, of uncertain standing, who agreed, for so much per, to examine each patient, and prescribe his treatment.

Then the solution of a difficult problem was made easy, we filed charges of unprofessional and dishonorable conduct against the physician with the State Board of Health, and he was summoned to trial, and the "masseur" within 24 hours left the county and state and has not returned.

I hope no society will make the mistake we did in that case, and I write this paper with the wish that you profit by our experience and your work made easier by an *immediate* investigation and prosecution of these cases. So long as they are allowed to work unmolested, they are making their position stronger, and what was once a simple duty becomes a most difficult task, for they will employ every means to defeat you, crying "persecution not prosecution," the sympathy of the people is naturally with the "under dog," and they present endorsements from a surprisingly large number of "best citizens," and often secure the aid, rendered indirectly, of the prosecuting attorney himself.

I have given you an illustration of a difficult prosecution, the result of delay, and now have another case to show the success of early action.

Shortly after the case mentioned above was concluded, an optician came to our county. He claimed to treat diseases of the eye, fit glasses,

etc. He would examine a patient—they *always* needed glasses, and *always* had a constitutional disease needing treatment—for which $50.00 to $150.00 was charged. We filed a complaint, he was arrested and received a treatment in the justice's court, which cost him $50.00. He left the same day and has not been back.

In conclusion, I will say that we need, first: A more perfect organization; second, to watch for these cases and treat them in their incipiency; third, to educate the people concerning these things that their sympathy and aid may be enlisted on the right side. When we have attained, if we ever do, this perfect condition, we will not so often be embarrassed by the advertisement of "Dr. ————, the old reliable," in every issue of our paper.

THE SECRETARY'S WORK: FROM A BUSINESS STANDPOINT.*

By E. N. Chastain, M. D., Butler, Mo.

Permit me to thank you for the honor conferred in asking me to occupy a part of the time on your program.

As secretaries we are unique, for most other bodies have for secretaries trained business men who need little or no instruction as to their duties.

You will well understand, therefore, why a recital of my business duties will, step by step, involve instruction as to your own. I am assuming that you are all typically competent practitioners and consequently are innocent of a knowledge of business method and this will account for my primer-like and apparently obvious remarks.

The relation of a county secretary is of a threefold nature: first, to his county society; second, to other county societies; and third, to the State society or secretary.

I have adopted the following plan in my county work: At the beginning of each year every doctor in the county, who is eligible to membership, is given a page in my ledger and charged with his annual dues to the county and State society; when he pays he is given proper credit. Those who have never been members I begin to write to and urge them to become members; if I fail to interest them I ask our councilor to write them; if this fails, I then find some member of the society who stands close to this person and have him write or see him; some of these methods coupled with nice, meaty program, an open ses-

*Read before the Missouri Society of Medical Secretaries, Jefferson City, May, 1909.

sion or a banquet, will usually bring them in. I also keep a cash book which shows at all times the amount of money on hand. All bills are paid by check so that the vouchers may be automatic; my books show at any time just who has paid, when and how much. Minutes of each meeting are recorded in a book kept for that purpose, within twenty-four hours after the meeting.

Some doctors are careless about paying their dues; this requires from one to half a dozen letters, courteous, business-like, and an occasional sight draft, to get the money. Those who attend the meetings usually pay their dues promptly. My duties to other societies pertain to transfers, joint meetings, etc.

My relation to the state secretary is most important to lighten his burdens. I try to arrange my business so that I make only one annual settlement with him, sending money for all members with my report. When new members come in credentials are forwarded at once; suspensions and expulsions are reported at once. The secretary should be personally acquainted with every eligible doctor in the county, for this will greatly lighten his burdens and will always be a benefit to the state secretary. It is hardly to be expected that a general practitioner will make an ideal secretary; there is something about the genuine, scientific practice of medicine that demands mental views and qualifications entirely distinct from a typical business man. All of us must have instinctively felt this when we first decided to go to a medical school instead of into some other business.

There are only two sides to medicine, the practical, or business side, from which we derive our living, and the scientific side, from which we gain information to make our work something more than guess work. It tells us what is needed in a given case and why.

The majority of physicians have the scientific aspect of the profession uppermost in their minds in the practice of medicine; their ideal is to be a good physician.

"A physician is man's earliest and last earthly acquaintance, the faithful and silent repository of the most delicate secrets of life and the home, the medium through which God brings to the service of man all the curative and restorative agencies with which the works of creation abound; a warrier thoughtless of his own life leading the hosts of science against hostile disease bent upon the destruction of human life; a missionary preaching the gospel of redemption from habits which destroy the body, wearing worthily and keeping spotless the immaculate vestments of a profession whose sacred mission is to protect and prolong life, limit desease and relieve suffering; and whose service to man precedes the cradle and ends with the grave." But when that great law, the survival of the fittest, pursues us and we are forced to consider the bread and butter side of life, and to do so is not a crime, it is a necessity. Most of us need to pay more attention to the business side of the profession. Be good doctors first, then good business men.

Of course a certain orderly and systematic habit of mind is not inconsistent with the highest medical attainments; but we know, if the dear public does not, what occupies most of our anxious moments is not money getting but the diagnosis or the prognosis in some serious case with which we are wrestling. These things are too true and every doctor would be better if the business side of his life were not neglected. The ideal business man has to develop, as it were, a brain center that the average physician does not concern himself with. It is necessary for the time being to put aside all strictly professional duties and busy himself with the cold business side of life. It may be truly said that the success of a society depends largely upon its secretary. Some one has said: "Show me your secretary and I will tell you what your society is." The secretary should be a man who makes a success of his business or he would certainly not make a success of society business. The success of a meeting is not to be judged by the literary program wholly, for more good may come from a meeting spent entirely in a social way, at a picnic or on a fishing trip; from such meetings the doctors learn that the little petty jealousies that exist so often have only an imaginary foundation; the better the social condition, the better will be the meetings. The secretary should be a good physician, successful in his practice and known to have a well-ordered mind. He should be well read in the current literature of the profession and know what are the main medical questions of the day. He should be a man of some personal magnetism for he is obliged not only to know the member best qualified to treat of any particular subject, but how to get him to give his time to the necessary research for and composition of a paper. As said before he should know personally and intimately every doctor in the county, he should be a man of pleasing address, should have something in his make-up that attracts people to him rather than repels. He must have self-denial, for he alone is morally bound to attend every meeting of his society, no social affair, however pleasant, must keep him from the council chamber, no desire for a pleasant, almost indispensible nap after an exhausting accouchment must prevent him from taking his weary brain and tired frame to the sacred meeting. His own serious illness or that of a near relative can excuse his delinquency; the storm that he knows will empty three-fourths of the chairs, he must brave or he may learn later that some delinquent doctor has been annoyed because of his inability to pay his dues. During the tenure of his office the secretary must prove himself impervious to criticism from some disgruntled member or other. If he endeavors to do his full duty in the conduct of the society's business the remark will surely be made that the whole society is secretary so and so, or that the secretary thinks he is the whole society. If, on the other hand, the meetings are in any way loosely run Mr. Secretary may count upon it being attributed to his indifference or incompetency; to kindly scientific criticism no man can object, but it is hard to bear patiently the knocks of the chronic kicker.

So our secretary must not be lazy but a hustler, must have a thick hide but be amenable to appreciation. He must be prompt and business-like, he must be patient, persevering, persistent, diplomatic, systematic, energetic and tactful. If there is any other good quality, moral, mental or physical, which he should not possess, I have yet to hear of it. Do not think me ungrateful; my position has its advantages in enabling me to learn more than can the average man, of the fine qualities and noble aspirations of the western American doctor.

WHAT THE COUNTY SECRETARY CAN DO TO MAKE THE STATE JOURNAL A FORCEFUL ELEMENT IN MEDICAL ORGANIZATION.*

By E. J. Goodwin, M. D., St. Louis.

Upon the secretary, more than upon any other member of the county society, rests the burden of keeping the work of the society up to its highest pitch of usefulness, and the members instinctively expect the secretary to exhibit an active, keen and lively interest in everything they themselves attempt to do. If the secretary fails to do this, the interest in the work of the society immediately drops, just as the engine slows down when the steam is shut off; for the secretary is usually the motive power of the society machinery, and if he fails to perform his functions faithfully, cheerfully and conscientiously, the other members fall into a state of indifference that spells ruin for the society. They do this sometimes in spite of the most energetic and faithful work on the part of the secretary; but in that case he has the satisfaction of knowing that he did his best to prevent such a fate. When a society stops working, the Association's influence in that community is practically dead; and it would not take many societies of that kind to cripple the work of the general body very seriously. Fortunately, however, we have a good body of earnest, hard-working secretaries, and therefore we have a number of good societies. But we have not as many of the good sort as we should have, and not all of them are doing all they should do, and are capable of doing, to make their societies more effective and more influential bodies in benefiting the members, as well as effecting a greater and larger benefit for the profession throughout the State and for the general public. Every society in the State, no matter how small it may be numerically, which holds meetings and keeps up a live interest in medical organization, contributes a powerful influence towards

*Read before the Missouri Society of Medical Secretaries, Jefferson City, May, 1909.

the fulfillment of the aims and object of our organization. That this is not mere idle talk, was demonstrated during the meeting of the legislature this year by the passage in that body of medical bills that will raise the practice of medicine to a much higher plane in this State than it has ever occupied before. Previous to the reorganization of the State Association, and the creation of the county medical society, the ordinary legislator paid scant heed to measures which the medical profession introduced; but now the voice of the profession commands the attention and respect which the power and influence of such an intelligent and devoted body of men should properly receive. Every secretary here is entitled to feel that he has contributed largely to this long-desired and much-sought-for consummation; and, feeling so, he should be strongly encouraged in his work for the future.

The duties of the secretary are so manifold and his attention to these duties so very important in maintaining the interest of the members in society work, that he should take advantage of every means which will tend to make his work effective and lasting; and the Journal, I believe, is his most important ally in accomplishing this end. The great value of the Journal as a means of giving permanence to the labors of the secretary and to the influence of the society, has not been fully appreciated by all county secretaries, for many of them do not give prominence to the work of their societies through the pages of the Journal. I think those societies which have sent reports of their proceedings to the Journal for publication will testify that attention to this simple matter has been very effective in maintaining the interest of the members in society work. Every organized body should have a medium of communication through which the members can keep in close touch with the events that occur from time to time in the different districts of the State, as these events have something in them which in some measure is interesting and useful to the entire membership. For instance, in St. Louis recently, the notorious Larsen, who advertised to cure all digestive diseases by his "teleconi" system, was fined $500 for practicing medicine without a license. A very important ruling by Judge Williams, the trial judge, defines the practice of medicine as "holding one's self out and representing and professing to be able to heal disease, no matter by what process." Larsen was arrested by the health department of St. Louis about twenty-one times, but used every possible means of evading the law, without success. He was permitted to pay $150 in fines and leave the State. The judicial decision defining the practice of medicine will be of great service in exterminating the advertising medical fakir from all counties. Now here is an item of very considerable interest to every physician in the State, particularly to every member of our organization; and yet only a comparatively small number would ever hear of such an event through the newspapers, whereas all may learn of it through the Journal. Optometry would be flourishing in our State in a short time had we not had a good

organization to fight the measure introduced to legalize this practice, and a Journal in which to publish the truth in regard to the dangers of such a fallacious doctrine.

These successes are a source of encouragement to every member, but only through the Journal can we bring such matters to the attention of the members. The doctor who lives in a district remote from the points where such events occur, feels that he is closer to the members throughout the State because he can read of what they are doing; his interest in society work therefore is kept alive, and he is more ready to assist in promoting the effectiveness of his own county society than he would be were he not informed of the work that other societies and other members are doing. Every occurrence, therefore, that can be construed into having an interest for the members in general, should be reported in the Journal; and, of course, it is the duty of the secretary to transmit the information to the editor.

One of the important functions of the Journal is the publication of papers read at the county society meetings; therefore the secretary should make it a point to select the good papers and send them to the Journal. When a member has devoted much time to the preparation of a paper and reads it before the society, it is a graceful acknowledgment of appreciation by the other members of his society if it is sent to the Journal for publication; for usually whatever has interested the members of your own society will hold the attention of other members in various parts of the State and bring out the fact that your society is doing good work. I believe, therefore, that it would be a good plan for the secretary to see that the Journal has a paper from some member of his society every three or four months. The knowledge that the paper will be published in the Journal will be a healthy stimulus to careful preparation of the paper, and cannot fail to stimulate and sustain greater interest in the general work of the society. The fear that few papers would be good enough to appear in the Journal should not deter you from adopting this plan, for you can easily distinguish between the papers which have some merit and show careful work on the part of the authors and the ones that would not reflect much credit either upon the author or the society; and the authors themselves, as a rule, will be the ones who will object to publication. And every paper thus prepared and read means increased interest in county society work, not only from one who reads the paper, but also from those whose interest is enlisted as a result of the work of the author of the paper.

Another way in which the Journal can be made to do greater service for the society is for the secretary to send copies to eligible non-members. There is still quite a number of good men outside the county society who, if constantly and periodically urged, would be induced to join. About every three months the secretary should make up a list of non-members in his county and have the Journal sent to them. At the same time the secretary should write a letter informing them

that a sample copy of the Journal will be mailed, inviting their attention to the Journal, and emphasizing the reasons why it would be to their interest to join the county society. Coincident with this the secretary of the State Association can mail a letter of invitation to join the county society, and the editor at the same time write a similar letter. In this way the influence of the society is extended and sooner or later you will get most of the desirable physicians, if not all of them, to join the county society. If the copy of the Journal that is sent contains a number of papers read in the different societies, and particularly if it contains a paper by some member of your own society, together with a good report of the last meeting, the effect upon the non-member would be very beneficial in its influence for good.

Finally, whenever you hear of a member who complains that he does not receive his Journal regularly, you should make it your duty to notify the editor. Of course, it is easier to say "write to the Journal about it," but to do so is to miss an opportunity of showing the member that you, as secretary of the society, are watchful of his privileges and benefits of membership; however, if you yourself would take the trouble to write a postal to the editor, simply stating that Doctor So and So complains about non-receipt of the Journal, you would show the member that you consider the Journal an important feature of membership, and you would gain his friendship and coöperation and compel his interest in society work.

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ADDRESS ALL COMMUNICATIONS TO METROPOLITAN BUILDING, ST. LOUIS, MO.

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E. J. GOODWIN, M. D., Editor.

PUBLICATION COMMITTEE:

Walter B. Dorsett, M. D., Chairman. M. B. Clopton, M. D. M. C. Shelton, M. D.

EDITORIAL

MEDICAL EDUCATION IN MISSOURI.

On page 151 will be found a table giving in detail the results of examinations by the State Board of Health of the graduates of the medical colleges in Missouri for the years 1906, 1907, 1908 and 1909. This table contains much important data concerning the progress of medical education in Missouri and should be carefully studied.

In 1906, the year in which the present State Board of Health began its duties, there were no legal restrictions of the educational qualifications of matriculants in medical colleges in Missouri, and in that year 367 graduates were examined by the board, with 48 per cent. of failures. Since the enactment of the law requiring a high school certificate, or its equivalent, before entering upon the study of medicine, there has been a decided decrease in the number of graduates and a lowering of the percentage of failures, in 1909 to almost one-half of the percentage of 1906. Comparing the percentage of failures in 1906 with that of 1909 we find that, with one exception, all schools show a lower percentage of failures in 1909 than in 1906, and that all except four colleges show a yearly decrease in the percentage of failures.

The table does not exhibit such marked improvement in medical education in Missouri as to justify a jubilant feeling of pride in our medical schools as a class, but the high advance made by several institutions promises much for the future. The greatest improvement is shown by the State University, which had 12 per cent. of failures in 1906 and 100 per cent. of successes since that time. While

it is true that the number of students examined each year was very small, it is, nevertheless, worthy of consideration that the State University has, since 1906, required preliminary educational qualifications of one year in a college of liberal arts. Of the other schools the most marked improvement is shown in the Washington University and the St. Louis University in the years 1907, 1908 and 1909, the failures falling from 17 per cent. in 1907 to 7 per cent. in 1909 in the former institution, and from 22 per cent. in 1907 to 3 per cent. in 1909 in the latter, the total number of graduates from each school during the three years varying so slightly as to justify the conclusion that the student body represented a higher grade of intelligence in the last year than in the previous years.

The agencies at work to elevate the standard of medical education in Missouri, notwithstanding the deplorable condition existing at present, as exhibited by the table, have resulted in many changes in the methods and practices of teaching that cannot fail to affect beneficially the status of medical education in this State, and some of the schools have announced a higher grade of requirements for the future. Beginning with 1910 the University of Missouri will require two or more years in a college of liberal arts, and the Washington University and St. Louis University one year, before students will be admitted to the medical departments.

The State Board of Health is the legally authorized body to enforce compliance with the laws governing the entrance requirements, teaching facilities and equipment, and it should have the active support of the medical profession in this work. The present Board will retire with the knowledge that it has done its work faithfully and successfully, and the new board will enter upon its duties with much of the labor already performed and, with precedents established and enlarged powers in other directions conferred upon it by recent amendments to the laws, Missouri should rise, in the next four years, to a proud place in the rank of states where the study of medicine is hedged about with every provision to insure capable, competent and faithful practitioners of medicine.

SANITATION OF CARS.

On another page we reproduce several letters, published in the daily papers in St. Louis, relative to the duties of the State Board of Health in the control of the sanitary condition of railway coaches. The first letter is from Governor Hadley to Dr. A. H. Hamel, President of

the State Board of Health, the next is Dr. Hamel's reply, and the final letter is the opinion of the Attorney-General as to the Board's legal power in enforcing its rules governing the sanitary care of coaches. We urge upon every member the necessity of reading this correspondence and upon county societies the duty of taking some action looking toward the enactment of laws to compel railroads to maintain strict care of the sanitary condition of passenger cars. We have discussed this subject in a previous issue of the JOURNAL and published the rules established by the Board.*

We are greatly pleased to observe the interest that Governor Hadley has taken in this matter and commend his action in drawing public attention to the insanitary condition of passenger cars. The criticism thus publicly expressed will undoubtedly arouse public sentiment in favor of the reform and induce the railroad managements to correct the evil.

The reply of Dr. Hamel to the Governor's letter is a testimonial of the diligence of the State Board of Health in the performance of its functions to protect the health and lives of the people, since it undertook to establish effective measures in the people's behalf without a vestige of legal authority to enforce its regulations. Nevertheless the Board asked and was promised the active support of all the railroads; in some instances these promises were fulfilled and the managements cooperated with the Board and maintained good sanitation of the cars. The fact, however, that the Governor was impelled to write a public letter to the State Board of Health directing attention to the insanitary condition of cars, is a rebuke to the managements of some of the roads, and their failure to comply with the rules set forth by the Board of Health is little short of criminal.

EDITORIAL NOTES

THE physicians of Carthage have organized a postgraduate club and elected the following officers: Vice-president, Dr. Wallace E. Steele; secretary, Dr. Everett E. Powers, and treasurer, Dr. Calvin B. Taylor.

PARKER Memorial Hospital, which was established at the University of Missouri, Columbia, by James L. Parker as a means of clinical

*May, 1908.

instruction for the school of medicine, has been converted into a students' infirmary. Dr. Guy L. Noyes has been continued as superintendent.

Dr. Frederick A. Patterson, St. Joseph, has temporarily succeeded Dr. W. F. Kuhn, removed, as superintendent of State Hospital No. 2, St. Joseph.

The following appointments and promotions are announced in the St. Louis University School of Medicine: Dr. Martin F. Engman, professor of dermatology, vice Dr. John H. Duncan, resigned, and Drs. John W. Marchildon, J. J. Houwink and Russell D. Carman, promoted from instructors to assistant professors of bacteriology, dermatology and roentgenology respectively.

Drs. James Moores Ball, John C. Murphy, Joseph L. Boehm, and other members of the Faculty of the College of Physicians and Surgeons in St. Louis have resigned.

Articles Accepted for N. N. R.:

Alypin Tablets, 3 1-3 grs., 1⅛ grs., 1-3 gr., ¾ gr. (Farbenfabriken of Elberfeld Co.).

Helmitol Tablets, 5 grs. (Farbenfabriken of Elberfeld Co.).

Sebromin Tablets, 8 grs. (Farbenfabriken of Elberfeld Co.).

Veronal-Sodium Tablets, 5 grs. (Farbenfabriken of Elberfeld Co.).

Thyresol (Farbenfabriken of Elberfeld Co.).

Novocaine Nitrate (Koechl & Co.).

Holadin and Bile Salts (Fairchild Bros. & Foster).

Oxone (Roessler & Hasslacher Chemical Works).

Apinol (Apinol Chemical Co.).

Articles Accepted for N. N. R. Appendix:

Tablets Atoxyl, 1-3 gr. (Sharp & Dohme).

Tablets Novocaine Soluble, 1.14 gr. (Sharp & Dohme).

Tablets Novocaine, 1-3 gr. (Sharp & Dohme).

Ampules Atoxyl Solution 10% (Sharp & Dohme).

Ampules Atoxyl Solution 10% and Novocaine 1% (Sharp & Dohme).

Massolin (Lederle Laboratories) has been accepted for inclusion with N. N. R.

Triferrin:

Triferrol: The agency for these products has been transferred from C. Bischoff & Co. to Knoll & Co.

COUNTY SOCIETY NOTES

ATCHISON COUNTY MEDICAL SOCIETY.

The Atchison County Medical Society held a meeting at Rock Port, July 1, 1909. The attendance was fairly good.

Two papers were read. The first, by Dr. Taylor, of Fairfax, entitled "Hepatic Abscess," was well presented and thoroughly considered by those present. The other paper, by Attorney W. R. Littell, of Tarkio, on the subject of "Medical Jurisprudence," considered at some length the laws governing the practice of medicine. This paper was discussed at considerable length by Dr. C. R. Woodson, of St. Joseph, whom this society was pleased to entertain as a visitor.

The next meeting will be held at Wesboro, on October 7th.—AUSTIN MCMICHAEL, M. D., Secretary.

THE CALDWELL COUNTY MEDICAL SOCIETY.

On July 21, 1909, the Caldwell County Medical Society held its regular quarterly meeting at Kingston, Mo. Papers were read as follows: "Summer Diseases of Children," by Dr. B. F. Carr, Polo, Mo. "The Relation of Eclampsia to Acute Bright's Disease," by Dr. Geo. W. Goins, Breckenridge, Mo. "Hemorrhoids," by Dr. W. T. Lindley, Hamilton, Mo.

These papers were well received and discussed.

Dr. B. F. Carr presented a case of tuberculous osteitis involving the humerus and radius.

Dr. Tinsley Brown, Hamilton, Mo., resigned as secretary of the society because of his added duties as president of the State Society. Dr. Geo. W. Goins was elected to fill out the unexpired term of Dr. Brown as secretary of the society.

It was decided to take up the post-graduate work in two sections in this county on account of the railroad facilities. Drs. Lindley, Goins and Duffie were appointed as a committee to organize the work in the north half of the county along the Burlington railroad, and Drs. Carr, Smith and Schroeder were appointed as a committee to organize the work in the south half of the county along the Chicago, Milwaukee railroad. We hope to have this work organized by the time of the next quarterly meeting of the society, which will be held in Hamilton, and which will be an open session to the public. School hygiene and other popular topics will be discussed at this meeting.—GEO. W. GOINS, M. D., Secretary.

CARROLL COUNTY MEDICAL SOCIETY.

The Carroll County Medical Society met in regular session on June 16th. The visiting doctors present were: Dr. A. W. McAlester, of Columbia; Dr. Jabez Jackson and Dr. McAlester, Jr., of Kansas City.

The doctors of the county present were: Drs. Cook, Cooper, Craton, Meredith, Austin and Brunner, of Carrollton; Dr. Lee, of Norborne; Dr. Samuels, of Sugartree; Dr. O. R. Edmonds, of Tina; Dr. Brown, of Bosworth; Drs. Boggs, Colby and Mrs. Dr. Colby, of Roads; Drs. Baird, Ewell and Miller, of Bogard.

After the regular order of business, Dr. McAlester, Sr., addressed the society on the subject of "Progressive Medicine." Dr. McAlester is a tireless worker in the interests of the medical profession, and few men have done more than he to guide the profession which he represents.

After the comments on Dr. McAlester's address, the society adjourned to the hotel for dinner.

At the afternoon session Dr. Jabez N. Jackson discussed very thoroughly the subject of cancer of the female breast. Dr. McAlester, Jr., briefly discussed glaucoma of the eye.

After a unanimous vote of thanks to the visiting doctors for their presence and able discussions, the society adjourned until the second Wednesday in July.—R. M. Miller, M. D., Reporter.

DUNKLIN COUNTY MEDICAL SOCIETY.

The Dunklin County Medical Society met in Kennett on July 14th. Those present were: Drs. V. H. Bond, T. J. Regdon, Paul Baldwin, W. B. Finney, J. J. Drace, W. E. Sturgis, J. A. Hogue and W. G. Hughes; visitors were: Drs. A. B. Mobley and W. O. Finney.

The following papers were read and discussed:

Amœbic Dysentery, by Dr. T. J. Rigdon. Discussion opened by Dr. Eli Back.

Cholera Infantum, by Dr. J. A. Hogue. Discussion opened by Dr. B. L. Ellis.

Acute Ileo-colitis, by Dr. W. G. Hughes. Discussion opened by Dr. J. B. Sharp.

Dr. E. H. Beall was prevented from attending, and the subject assigned to him, "Bacillary Dysentery," was taken up for general discussion.

The society enjoyed a very successful and interesting meeting.

Adjourned to meet in Campbell, September 8th.—W. E. Sturgis, M. D., Secretary.

GREENE COUNTY MEDICAL SOCIETY.

Greene County Medical Society adjourned July 9th for the summer vacation, after having completed a very instructive half year's work. Papers were presented during the sessions by Drs. Wm. Rheinhoff, T. A. Coffelt, C. E. Fulton, W. A. Camp, C. A. Tucker, C. E. Woody, Wm. Smith, G. W. Barnes, S. W. Tickle and O. N. Carter, who read papers on the following subjects: Puerperal Infection, Malaria, Iritis, Typhoid Fever, Diseases of Prostate, Diseases of the Ear and Eustachian Tube, Diseases of the Skin, Diseases of Infancy and Childhood.

The society attempted to bring before the city the importance of milk inspection and prophylactic measures to prevent the spread of tuber-

culosis and inaugurate a system of collection of vital statistics in reference to this disease. An anti-tuberculosis league was organized to confer with the city officials and citizens in attempts to prevent the spread of tuberculosis in the city. The members of this organization from the society are: President Fuson, Drs. Boyd, Rheinkoff, Wm. Smith, Barnes.

Dr. J. N. McCormack, National Organizer of the American Medical Association, was the guest of this society on May 26th, and delivered a very interesting address to the society at the Metropolitan Hotel, and in the evening gave a very instructive address to the public on medical topics of general interest.

The society will meet September 10th in regular session, taking up the subject of Diseases of the Pylorus, by Dr. B. F. Fortner.—J. E. Dewey, M. D., Secretary.

THE HENRY COUNTY MEDICAL SOCIETY.

MEETING OF JULY 7TH.

The Henry County Medical Society met in regular session July 7th, Drs. Gibbins, Haire, McNees, Peelor and Douglass present.

Dr. A. J. McNees gave an interesting lecture on Diseases of the Pericardium and Endocardium, giving the etiology, age, sex, seasons, secondary to what diseases, extension, pathology, varieties, symptoms and treatment. The discussion consisted of the relating of cases and the different ways of treating the condition.

MEETING OF JULY 21ST.

At the meeting of July 21st, there were present: Drs. Blackmore, Neeley, Peelor, Hampton, McNees, Haire, Bibbins, Shankland and Douglass.

Dr. T. A. Blackmore gave a lecture on Valvular Lesions of the Left Heart. The paper was complete in detail, showing careful research in the preparation and left nothing to be said on the acute varieties.

Dr. J. E. Neeley spoke on the subject of Chronic Valvular Lesions.

Both lectures were so good that nothing was left to discuss, and both essayists were highly commended.

The society will meet in Windsor, on September 15th.—F. M. Douglass, M. D., Reporter.

MACON COUNTY MEDICAL AND SURGICAL SOCIETY.

The Macon County Medical and Surgical Society met in the office of the secretary, in Macon, July 13th. Members in attendance: Drs. T. S. Watson, W. P. Rowland, G. F. Brewington and L. E. Mason, of Brevier; Drs. Wm. A. Welch and C. E. Salyer, of Callao; Dr. W. D. Pipkin, Excello; Dr. C. L. Hooper, Ardmore; Dr. F. B. Dailey, Keota; Dr. A. L. Cambry, Atlanta; Drs. W. H. Miller, C. W. Reagan, L. M. Thompson and A. B. Miller, of Macon.

The society has started in on a three months' special study of heart diseases. This meeting was entirely taken up in the examination and discussion of heart cases presented by the various members.

A committee was appointed to present a plan at the next regular meeting for the organization of a county anti-tuberculosis society, so that an aggressive campaign of education may be inaugurated.

At our next regular meeting in August the study of heart diseases will be continued. At this meeting Dr. Hooper will read a paper on the etiology and pathology of mitral stenosis and regurgitation. Dr. Dailey will read a paper on the differential diagnosis of the lesions. Dr. Reagan will tell us how to treat them. Dr. W. H. Miller will give the etiology and pathology of bradycardia and tachycardia. Dr. Rowland will read a paper on septic endocarditis and Dr. Miller will read a paper on angina sine dolore. These papers will, as far as possible, be illustrated by the presentation of clinical cases.

The doctors are expected to bring their wives, as arrangements will be made for their entertainment at the home of the secretary. After the session, there will be a picnic on the lawn of the secretary. This social event is planned in order that the doctors' wives may get together and get acquainted, and it is expected they will form themselves into some sort of an organization to meet quarterly.

Our society is doing the most satisfactory work it has ever done, and we heartily commend the plan to other county societies of taking up the various organs and studying them for a period, as it stimulates study and increases interest.—A. B. Miller, M. D., Secretary.

THE RANDOLPH COUNTY MEDICAL SOCIETY.

The Randolph County Medical Society convened at Moberly July 29, 1909, at 2 p. m. This meeting was entirely clinical, and proved to be the most interesting in the history of the society.

The first clinic was presented by Dr. Allen, of Cairo. This was a case of tuberculous osteoperiostitis of the right ulna, in which the ulna was involved to such an extent that complete removal was necessary. The case was discussed by Drs. Clapp and Bazan.

The second clinic was presented by Dr. Burkhalter, of Higbee. This was a case of angioneurotic edema and was very instructive from the standpoint of diagnosis. The case was discussed by Drs. Lyter and Bazan.

Dr. C. K. Dutton, of Moberly, presented the third clinic, the first patient being a case of corneal opacity. The doctor was able to demonstrate some very excellent results obtained by subconjunctival injections. The second patient presented by Dr. Dutton was a case of traumatic rupture of the lens capsule, treated in due time by extraction. These cases were discussed in full by Dr. Cuppaidge.

Dr. J. C. Lyter then presented a case of specific hypertrophic cirrhosis of the liver, which was responding beautifully to large doses of iodide of soda. This case was freely discussed by Drs. Cuppaidge and Allen.

The last clinic was presented by Dr. C. B. Clapp, of Moberly. Dr. Clapp presented and discussed at some length a case of suppurative appendicitis of a few hours duration, treated by operation. This subject was discussed by every member of the society, each urging early operative procedure.

The next meeting will be held in the Commercial Club rooms at Moberly on August 26th at 2 p. m. This meeting will also be clinical.—J. C. Lyter, M. D., Secretary.

SHELBY COUNTY MEDICAL SOCIETY.

The Shelby County Medical Society met at Clarence, June 22.

Dr. Vaughn read a good paper on syphilis, which was discussed to good advantage, Dr. Read saying he knew of one instance of infection from a dentist's forceps.

Dr. Nickell read an excellent paper on "Routine Urinalysis With Findings in Two Unsuspected Cases." He said most physicians were too negligent in making urinalyses. He preferred to buy the reagents in bulk, as they were then more reliable and cheaper; he had found that patients were willing to pay him when he explained to them the importance of the examination. The paper was well received and discussed.

A clinical case was reported by Dr. Daniel.

Those present were Drs. Pollard, Vaughn, Stark, Dallas, Owen, Sanders, Roy, Read, Daniel, Nickell and Wood.—A. M. Wood, M. D., Reporter.

GRADUATES OF MISSOURI MEDICAL COLLEGES EXAMINED BY THE MISSOURI STATE BOARD OF HEALTH IN THE YEARS 1906, 1907, 1908, 1909.

Name and Location of College	1906				1907				1908				1909				Totals			
	Passed.	Failed.	Total No. Examined.	Percentage of Failures.	Passed.	Failed.	Total No. Examined.	Percentage of Failures.	Passed.	Failed.	Total No. Examined.	Percentage of Failures.	Passed.	Failed.	Total No. Examined.	Percentage of Failures.	Passed.	Failed.	Total No. Examined.	Percentage of Failures.
American Medical College, St. Louis.....	8	7	15	47	3	8	11	73	6	4	10	40	2	0	2	0	19	19	38	50
Barnes University Medical College, St. Louis..	29	44	73	60	26	20	46	43	....	....	....	....	24	12	36	33	79	76	155	49
College of Physicians and Surgeons, St. Louis..	11	32	43	74	9	19	28	68	9	12	21	57	11	14	25	56	40	77	117	66
Eclectic Medical University, Kansas City.....	2	7	9	78	1	0	1	0	....	....	....	....	....	....	....	....	3	7	10	70
Ensworth Medical College, St. Joseph.....	4	15	19	79	5	2	7	28	7	6	13	46	6	3	9	33	22	26	48	54
Kansas City Hahnemann Medical College, K. C.	....	1	1	100	1	0	1	0	4	3	7	43	....	....	....	....	5	4	9	44
Homeopathic Medical College of Mo., St. Louis	2	5	7	71	3	1	4	25	4	3	7	43	1	1	2	50	10	10	20	50
St. Louis University, Medical Dept., St. Louis	62	46	108	42	31	9	40	22	32	7	39	18	33	1	34	3	168	53	221	24
University Medical College, Kansas City.....	26	10	36	28	38	15	53	28	26	11	37	30	20	12	32	37	120	48	168	28
University of Missouri, Medical Dept., Columbia	7	1	8	12	2	0	2	0	8	0	8	0	3	0	3	0	20	1	21	5
Washington University, Medical Dept., St. Louis	41	7	48	14	35	7	42	17	43	6	49	12	40	3	43	7	159	23	182	13
Totals.....	192	175	367	48	154	81	235	34	139	52	191	27	140	46	186	25	645	344	989	35

CORRESPONDENCE

Jefferson City, July 28, 1909.

Dr. A. H. Hamel,
President State Board of Health, St. Louis, Mo.

My Dear Doctor:

Recently, during my travels about the State, I have had occasion to notice the very unsanitary condition of the railroad cars, and particularly of the closets and wash rooms, both upon the ordinary coaches and also in the sleeping cars. I have also noticed that promiscuous expectoration is general on the trains.

I wish that you would appoint a committee from the State Board of Health to investigate these conditions, and take up with the railroad companies the question of observing rules that your Board might establish for the improvement of existing conditions.

Without reference to your legal authority in the matter, I am satisfied that the officers of the railroad companies will be glad to coöperate with you by observing such practical sanitary regulations as your Board might adopt.

When we consider that there occurs in this State each year approximately 10,000 deaths from tuberculosis, and that probably 50,000 more of our people are partially or totally incapacitated by reason of that disease, all of which might be largely, if not entirely, prevented by proper sanitary regulations, the importance of some action in reference to these conditions is clearly apparent.

I shall be glad to have you advise me as to any action that you may deem it advisable to take in this matter.

Very truly yours,

HERBERT S. HADLEY,
Governor.

St. Louis, July 30, 1909.

Honorable Herbert S. Hadley, Governor,
Jefferson City, Mo.

Dear Sir:

In reply to your letter of the 28th inst. requesting the State Board of Health to take action in regard to the unsanitary condition of railroad coaches, etc., permit me to say:

I am much gratified that you take such great interest in the sanitary matters, and especially am I pleased to have you call public attention to the disregard on the part of the railroad companies of the rules published by this Board, with the concurrence of the managements of all the roads. In 1908 the State Board of Health thoroughly considered the conditions of railroad cars, station houses, etc., as disseminators of disease, and appointed a committee to whom this matter was referred. The committee conferred with all the railroad managements which operate passenger trains in this State. As a result of much correspondence and many conferences, certain rules, concerning the manner in which coaches were to be kept clean, provision for receiving the expectorations of persons suffering with disease or of those practicing that insanitary and unclean habit, were provided; the frequent cleansing of coaches was prescribed, disinfecting toilet rooms, cuspidors and coaches was given detailed consideration, as well as the frequent supply of potable water, and the cleansing of drinking utensils. Besides this, placards were ordered displayed in every coach and station calling attention to the dangers from communicable diseases which are transmitted from one person to another from expectorated materials and from the general insanitary condition of coaches. All these rules and regulations were published in the April, 1908, number of the Bulletin of the Missouri State Board of Health, and widely distributed throughout the State. I enclose a copy of the Bulletin.

As I said above, for all these regulations and rules the State Board of Health had the concurrence and the promised active support of the railroad companies. As far as the State Board of Health has been able to inform itself, there is no statutatory provision which empowers the board to enforce these regulations, and it was considered fortunate to have the voluntary and cheerful coöperation of the railway companies in carrying them out. It is always difficult to enforce sanitary rules, even when legal provision is made for doing so, and when there are not at the disposal of the board funds to employ inspectors to report upon the sanitary condition of the cars and stations, the matter becomes much more complicated.

As you know, the trunk lines which embrace this State in their territory extend, in many instances, through several states, in many of which regulations have been made and promulgated concerning the sanitation of railway trains, just as in Missouri, and since there is no uniformity in these regulations this board has suggested that conferences be entered into with the State Boards of Health of adjoining states with a view to securing such uniform, reasonable and practical regulations as would be carried out without necessitating the plastering of the walls of railway carriages with printed regulations of the different states through which the coach may pass.

I will cheerfully present this matter to the State Board of Health, and I will endeavor to find some means for collecting the facts concerning the violation of the rules made by the board, and call the attention of the railroad companies to such conditions as may be found.

In the meantime, may I not request of you that you call the attention of the Attorney-General, officially, to the assistance which the State Board of Health needs in securing the enforcement of its sanitary rules and regulations of railways, in order that the board may be fortified legally in the proper way.

The members of the State Board of Health are gratified, however, to call your attention to the strict compliance with the regulations made by the board on the part of some of the principal lines.

Again permit me to express my high appreciation of your interest in public health matters, and rest assured that my associates on the board join me in hoping that you will continue to manifest this same solicitude in the future for all matters with which the law charges the State Board of Health.

Most sincerely yours,

A. H. HAMEL,
President.

DR. A. H. HAMEL,
President State Board of Health, St. Louis.

Dear Sir:

"I am in receipt of your communication of the 9th instant, in which you enclose a copy of the 'sanitary rules for railroads,' adopted by the State Board of Health on May 10, 1908, of which board you have the honor to be president, requesting an opinion from this department as to whether the State Board of Health, under the present statute creating same, has the power and authority to adopt such rules and legally enforce the same.

"The present statute providing for the State Board of Health was enacted in the year 1883 (Laws 1883, page 95), and has had but one amendment made thereto since its enactment, which was in the year 1901 (Laws 1901, page 180), by adding a new section thereto creating a county board of health.

"Section 7520, R. S., 1899, is the only part of the act which defines the general powers and duties of the State Board of Health, and which reads as follows: 'The State Board of Health shall have general supervision over the health and sanitary interests of the citizens of the State. It shall be their duty to recommend to the General Assembly of the State such laws as they may deem necessary to improve and advance the sanitary conditions of the State; to recommend to the municipal authorities of any city, or to the county courts of any county, the adoption of any rules that they may deem wise or expedient for the protection and preservation of the health of the citizens thereof.'

"Section 7529 provides as follows: 'No rule or regulation adopted by this board shall be legal or binding which shall conflict with any law of the State or any ordinance of any municipality or town in the State.'

"The Legislature has wholly failed to provide by law a penalty for the failure or refusal to comply with any rule or regulation that may be made and adopted by the State Board of Health, except as to quarantine rules and regulations specifically named in Section 7523, R. S. 1899.

"A State board of health possesses only such powers and duties as the State Legislature may see fit to delegate to such board.

"By a careful reading of the act creating your board, you will observe that your powers for enforcing your rules and regulations are very limited, and are more of an advisory nature than executive. The Legislature should specifically grant the power and authority to the State Board of Health to make and enforce all needful sanitary rules to govern the care, use and keeping of steam railway coaches, dining cars, sleeping cars, and all waiting-rooms and stations, as your board has wisely done and as shown by the rules adopted and submitted for our examination in this case.

"In addition to such power and authority a penal statute should be enacted providing a penalty for the refusal or failure to fully comply with such rules and regulations.

"I am of the opinion that until such legislation is first had in this State, your board is powerless to do more than you have already done in the premises, to enact such rules as you have and request the railways to comply with the same.

"I do not think you have any authority to appoint an inspector for the reason that you have no authority to make and enforce the rules adopted."

Very truly yours,

JOHN M. ATKINSON,
Assistant Attorney-General.